

Birds of Blaine County, Riparian Point Count Surveys 2005

Prepared for:

Bureau of Land Management
Havre Field Station
Havre, Montana

By:

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Montana Natural Heritage Program
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EXECUTIVE SUMMARY

Bureau of Land Management (BLM) lands encompass diverse habitats across Montana with the potential to provide important habitat for many species of conservation concern. The Havre Office of the BLM is currently developing a Resource Management Plan for lands under its jurisdiction and requested information on the presence of bird species in Blaine County in order to improve the planning process. Much of the land under consideration is mixed-grass prairie bisected by small tributary streams of the Milk and Missouri Rivers.

In June 2005, fifty-eight point count surveys were conducted on BLM lands in Blaine County, Montana by zoology staff of the Montana Natural Heritage Program. The purpose of the project was to survey riparian habitat on BLM lands for the presence of riparian-associated birds. The survey was designed to generate a complete list of species to be considered in management planning. Seventy-one species of birds were recorded during the point counts, of which 11 species are state Species of Concern: American White Pelican (*Pelecanus erythrorhynchos*), Swainson's Hawk (*Buteo swainsoni*), Long-billed Curlew (*Numenius americanus*), Common Tern (*Sterna hirundo*), Forster's Tern (*Sterna forsteri*), Black Tern (*Chlidonias niger*), Loggerhead Shrike (*Lanius ludovicianus*), Sprague's Pipit (*Anthus spragueii*), Lark Bunting (*Calamospiza melanocorys*), Baird's Sparrow (*Ammodramus bairdii*), and Chestnut-collared Longspur (*Calcarius ornatus*) (MTNHP 2004). Six additional species recorded on BLM lands during the field visits, but not during the formal counts, are recognized as state Species of Concern: Ferruginous Hawk (*Buteo regalis*), Franklin's Gull (*Larus pipixcan*), Burrowing Owl (*Athene cunicularia*), Brewer's Sparrow (*Spizella breweri*), McCown's Longspur (*Calcarius mccownii*) and Bobolink (*Dolichonyx oryzivorus*), while two Species of Potential Concern, Great Blue Heron (*Ardea herodias*) and Baltimore Oriole (*Icterus galbula*) were also documented in Blaine County during the project, but not during the point count surveys. Finally, an additional two Species of Concern and one Species of Potential Concern have been previously documented in the region by others;

Caspian Tern (*Sterna caspia*), Grasshopper Sparrow (*Ammodramus savannarum*), and Short-eared Owl (*Asio flammeus*) and should be considered in resource management plans.

Riparian vegetation accounts for less than one percent of the landscape of the western U.S., yet provides habitat to more species of birds, both migratory and resident species, than all other vegetation types combined (Knopf et al. 1988). Riparian areas provide critical food and cover for a host of wildlife species, with species diversity highly dependent on the complexity and availability of riparian habitat (Scott et al. 2003). Riparian zones in the project area were generally dominated by herbaceous vegetation, with little-to-no shrub or tree component. Although a few riparian-associated species were recorded, the majority of the birds observed represent associations with the adjacent upland vegetation communities. The species documented reflect the limited abundance of complex riparian habitat on BLM lands in Blaine County. Many streams in the more northerly portions of the county are slower flowing streams and are likely to have herbaceous-dominant riparian plant communities (P. Hansen, personal communication 2006). Faster flowing streams in the project area are associated with greater topographic relief, and are more likely to support the growth of shrubs and trees. Although cottonwood recruitment may have been sporadic in Blaine County historically, many of the sites surveyed in a recent study revealed relictual stands of plains cottonwood, suggesting a recent history of tree cover (Jones 2003). The combination of irrigation diversions, small dams, and livestock grazing on these small streams will make future tree recruitment even less likely (Jones 2003).

The primary conservation need for riparian bird species identified as a result of this project is to survey all stream systems in Blaine County to 1) classify the vegetation cover potential, 2) identify actions necessary to restore natural disturbance regimes (i.e. flooding, fire, grazing), and 3) implement appropriate actions needed to conserve these riparian corridors.

ACKNOWLEDGMENTS

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TABLE OF CONTENTS

Introduction	1
Study Area	2
Methods	3
Project Design and Survey Point Selection	3
Point Count Methodology	3
Results and Discussion	4
Habitat Observations	4
Species Observations	4
Species Abundance and Distribution	8
Breeding Evidence	9
Documented Species of Concern	10
Additional Species of Concern Observed on BLM Lands During the Project Visit	11
Species of Potential Concern	12
Conclusions and Recommendations	13
References Cited	14

- Appendix A. Global/State Rank Definitions
- Appendix B. Sample Photos of Characteristic Site Vegetation
- Appendix C. Survey Sites with Point Count Locations
- Appendix D. Mapped Point Count Locations
- Appendix E. Habitat Association Table for State Species of Concern
- Appendix F. Bird List for Each Survey Location
- Appendix G. List of Birds for QLL's Covering Project Area in Blaine County

LIST OF FIGURES

Figure 1. Overview of Project Area Located in Blaine County	2
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LIST OF TABLES

Table 1. List of Bird Species Observed in Blaine County and Their Associated Conservation Status	5
Table 2. Species Listed in Order of Overall Abundance	8

INTRODUCTION

Riparian habitat is recognized as one of the five most important vegetation types for conservation of Montana's bird species by Montana Partners in Flight (Casey 2000). Numerous bird species associated with riparian habitats are listed as species in need of conservation by state and federal agencies, as well as, by non-government entities. Eleven state bird Species of Concern or Species of Potential Concern are riparian-dependent (MTNHP 2004). Twenty-seven species dependent on riparian habitat are identified in need of conservation action in the Montana Bird Conservation Plan (Casey 2000). Three riparian-associated species are listed on the Montana/Dakotas BLM Sensitive Species 2004 List (BLM 2004). One species is listed as a federally threatened species under the Endangered Species Act and one riparian-dependent species, proposed as a candidate for listing under the Act, was found warranted but precluded from listing (USFWS 2005).

The diversity of bird species in a riparian area is directly related to the presence of a combination of a

canopy, shrub, and herbaceous understory, and the width of the riparian zone (Scott et al. 2003). In northcentral Montana, riparian tree species generally encountered include cottonwood (*Populus* spp.), green ash (*Fraxinus pennsylvanica*), and box elder (*Acer negundo*). The associated shrub species may include common chokecherry (*Prunus virginiana*), snowberry (*Symphoricarpos albus*), wood's rose (*Rosa woodsii*), buffaloberry (*Shepherdia canadensis*), willow (*Salix* spp.), and silver sagebrush (*Artemisia cana*). The herbaceous component is typically dominated by various native and introduced grasses, along with American licorice (*Glycyrrhiza lepidota*) and Canada goldenrod (*Solidago canadensis*) (Hansen et al. 1988).

In 2005, the BLM contracted the Montana Natural Heritage Program to conduct avian point counts in riparian habitats on BLM lands in Blaine County to provide information for the Resource Management Plan under preparation. The purpose of the project was to survey for the presence of riparian-associated bird species on BLM parcels north of the Milk River.

STUDY AREA

Blaine County, located in northcentral Montana, is bounded by Saskatchewan, Canada to the north, Phillips and Hill Counties to the east and west, respectively, and the Missouri River to the south. Major landscape features include two isolated mountain ranges (the Little Rockies and the Bears Paw), an area of glacial outwash known as the “Big Flat,” the glaciated plains, and the Milk River, which bisects the northcentral section of the county (SCS 1986). The main tributaries of the Milk River, which contribute runoff from approximately the northern two-thirds of the county, include Lodge, Battle, Thirty-mile, Woody Island, Savoy, Wayne, and Fifteenmile Creeks. Project survey sites were limited to riparian habitats on BLM lands within the Milk River watershed (Figure 1).

Blaine County’s principal plant community is mid- and shortgrass prairie. The dominant species present in the northern portion of the county include western wheatgrass (*Pascopyrum smithii*), green needlegrass (*Nassella viridula*), needle-and-thread (*Stipa comata*), prairie junegrass (*Koeleria macrantha*), blue grama (*Bouteloua gracilis*), winterfat (*Krascheninnikovia lanata*), and silver sagebrush (*Artemisia cana*). The local economic base is supported by both ranching and farming. Hence, irrigation is important for hay and grain crop production. In dry years agricultural irrigation may result in water being entirely diverted from streams otherwise considered perennial (SCS 1986).

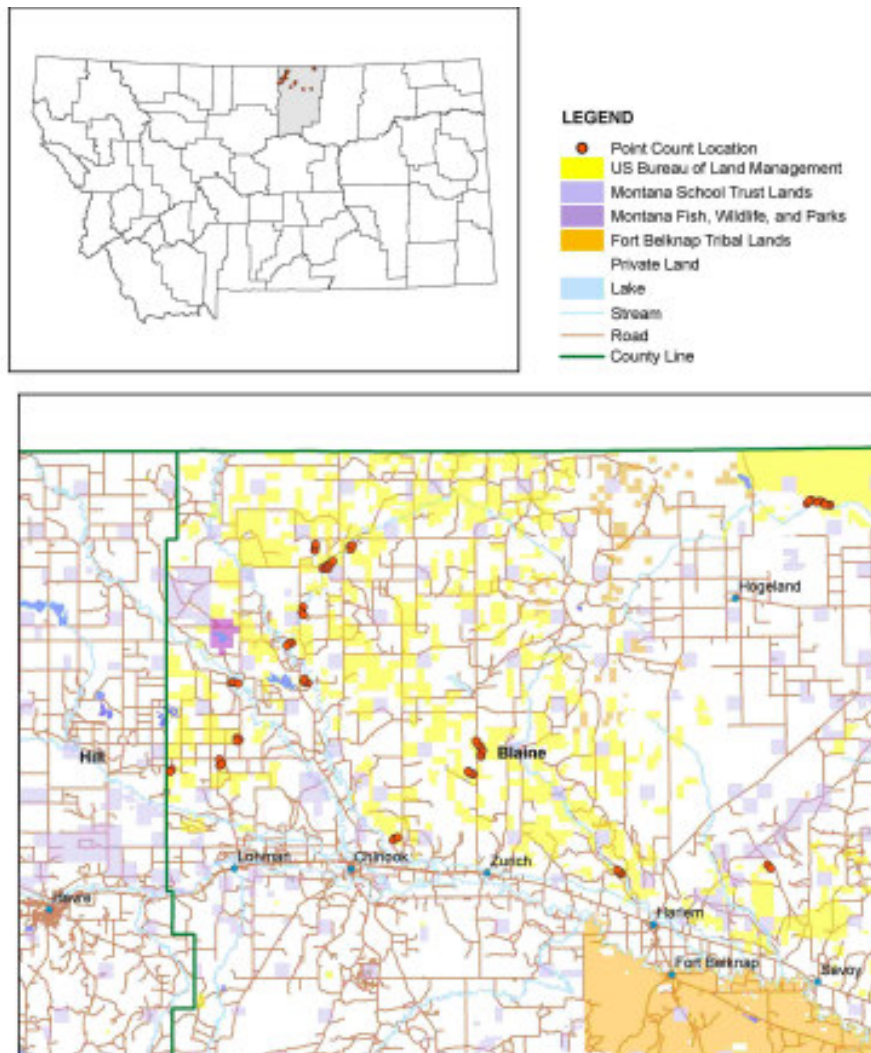


Figure 1. Overview of Project Area Located in Blaine County.

METHODS

Project Design and Survey Point Selection

Potential survey sites were identified by geographic location (Township, Range, Section) and local water features by BLM biologists and supplied to Heritage zoology staff. Vegetation characteristics for each site were previously surveyed and identified by BLM personnel. Since bird species diversity is positively related to structural complexity, specific sites were chosen for survey based on the degree of structural diversity of available riparian vegetation. Thus, sites with a more complex riparian vegetation community were a higher survey priority than sites consisting only of herbaceous riparian plant communities (see Appendix B for photos). Travel was restricted to existing roads and two-tracks; no travel, other than by foot, occurred cross-country. Vehicle under-carriages were pressure-washed prior to survey work to remove any weed seeds present.

Point Count Methodology

At each selected survey location, three points were evenly spaced along the general boundaries of the riparian zone. The first point count at each survey location was placed in the most structurally diverse vegetation present on the site. The second and third points were each located on the ground by field personnel walking no less than 300 meters from the previous point. This resulted in a 3-point survey of the site within an area spanning approximately 600 meters. Where creeks were surveyed at more than one

location, the point counts were separated by no less than the minimal 300 meter distance required for standard point count methodology (see Appendix C for a list of site and point locations). Coordinates were recorded using GPS units at each of the three points. The survey points were established along the edge of the water body to keep all points within the available riparian habitat and/or along the waterway. The riparian vegetation was so limited at a few locations that one of the three points fell in an area with little-to-no riparian vegetation.

Point count transects were established at 20 different locations. Of those, two locations were limited to two survey points due to limited size of the available (riparian/water) habitat, and the minimal distance required between point counts (see Appendix D for maps of point locations). Point counts were ten minutes in duration with birds recorded during time intervals of zero to three minutes, three to five minutes, and five to ten minutes. All birds detected visually and/or aurally within a 100 meter radius circle from the fixed survey point were documented using the appropriate 4-letter American Ornithologists' Union code. Casual observations of species outside the 100 meter count circle, or at times other than during point counts, were recorded for inclusion in the bird list for the county. Counts were not conducted during continuous rain or high winds. However, given the frequency of rain during the field season in 2005, a few points were surveyed during light rain showers.

RESULTS AND DISCUSSION

Habitat Observations

Riparian habitat varied greatly in plant composition across the project area. Most riparian zones were dominated by herbaceous vegetation, with little-to-no shrub/tree component. The majority of the sites containing more structural diversity than an herbaceous plant community were generally limited to decadent trees, single trees with no shrub understory, or limited shrub cover. At best, most of the riparian vegetation was sparse and showed signs of grazing and inadequate hydrology to support a diverse riparian community.

A few selected drainages containing limited to no riparian vegetation (upland grass to the water's edge) were not surveyed while other stream systems were surveyed at more than one location. At least one location with an herbaceous-dominated riparian system was surveyed (Woody Island Coulee), in part because of its location in relationship to the rest of the project sites. The stream was located considerably northeast of the other locations and was contiguous with an extensive block of BLM land that abuts the border with Canada. We presumed since it was closer to the headwaters and lay adjacent to a large block of BLM land, it was less likely to be dewatered for irrigation and might support a diverse assemblage of bird species. We also felt it beneficial to survey the site as there was considerable time invested to access it. Had this location been more accessible, it probably would have been surveyed at one location along its length, rather than three.

Since most of the sites surveyed lacked structurally complex vegetation communities, the majority of the bird species documented on this project was not specifically riparian-associated birds but, instead, represented adjacent land-cover types, including mixed-grass prairie, open water/wetlands and/or sagebrush. However, trees and shrubs were not entirely lacking within the study area and a few birds documented are considered riparian-dependent species. One site of the twenty surveyed possessed a complex riparian vegetation assemblage of herbaceous groundcover, shrub understory, and mature trees. Predictably, this site contained the largest number of riparian-associated bird species (as well as provided

direct evidence of breeding for the Great Horned Owl and Vesper Sparrow). This parcel is located on Lodge Creek and is a piece of Bankhead-Jones Lands (BLM Edition 1986 Surface Management Status map for Havre, Montana – Saskatchewan). We did not determine why this site contained such a complex assemblage of riparian vegetation compared to other sites surveyed. Many private land parcels in north Blaine County contained mature, dense cottonwood gallery forests, yet the area surveyed on Lodge Creek was the only BLM parcel containing similar habitat. Given the nature of land acquisition in Blaine County, we anticipate that private lands would contain better water resources and vegetation communities as private landowners claimed higher quality available lands and left marginal lands in the hands of public land managers.

Although herbaceous cover may represent the climax vegetation community on some of these prairie streams, current and historic water diversion and grazing are likely contributing to the current plant species composition (P. Hansen, personal communication 2006). Jones (2003) agrees with our observations of limited trees on most of the Milk River tributaries, indicating that cottonwood regeneration is now largely non-existent on these streams. Although cottonwood recruitment in north Blaine County may have been sporadic historically, many of the sites surveyed in Jones (2003) study revealed relictual stands of plains cottonwood, suggesting a recent history of areas with tree cover. The combination of irrigation diversions, small dams, and livestock grazing on these small streams will make future tree recruitment even less likely (Jones 2003).

Species Observations

A total of 71 species of birds was recorded during riparian point count work (see Table 1). Eleven of the 71 species of birds documented during the surveys are state Species of Concern (SOC): American White Pelican (*Pelecanus erythrorhynchos*), Swainson's Hawk (*Buteo swainsoni*), Long-billed Curlew (*Numenius americanus*), Common Tern (*Sterna hirundo*), Forster's Tern (*Sterna forsteri*), Black Tern (*Chlidonias niger*), Loggerhead Shrike (*Lanius*

ludovicianus), Sprague's Pipit (*Anthus spragueii*), Lark Bunting (*Calamospiza melanocorys*), Baird's Sparrow (*Ammodramus bairdii*), and Chestnut-collared Longspur (*Calcarius ornatus*) (MTNHP 2004). Additionally, 16 are identified as Sensitive Species by the Montana/Dakotas BLM and 30 are recognized by Montana Partners in Flight as in need of conservation action (I), in need of monitoring (II), or of local concern (III) (Table 1) (Casey 2000). Eighteen additional species were observed and documented on the BLM lands during the field visit, but outside of the formal point counts. Six of these species are recognized as state Species of Concern and include Ferruginous Hawk (*Buteo regalis*), Franklin's Gull (*Larus pipixcan*), Burrowing Owl (*Athene cunicularia*), Brewer's Sparrow (*Spizella breweri*), McCown's Longspur (*Calcarius mccownii*) and Bobolink (*Dolichonyx oryzivorus*); two additional species, identified as Species of Potential Concern, Baltimore Oriole (*Icterus galbula*) and Great Blue Heron (*Ardea herodias*), were also observed on BLM lands during this project (MTNHP 2004). Four species were new to the quarter latilongs* covering the project area and include: Baltimore Oriole (*Icterus*

galbula) (previously named the Northern Oriole and recently split into the Baltimore Oriole and Bullock's Oriole (*Icterus bullockii*) species), Great Horned Owl (*Bubo virginianus*), Rock Wren (*Salpinctes obsoletus*), and Virginia Rail (*Rallus limicola*) (MBD 2005). Of the seventeen Montana Species of Concern recorded in Blaine County during the project work, four are known to utilize riparian habitat during the breeding season. None of these species were abundant. [*Latilong is a combination of the words latitude and longitude and represents the area formed by the intersection of those imaginary mapping lines. Quarter latilongs are created by evenly dividing each latilong unit into four quarters (Lenard et al. 2003)].

Of the 36 species identified as Montana State Species of Concern, BLM Sensitive Species, or Partners in Flight species of conservation priority, 13 are wetland/prairie-pothole associated species, 12 are associated with grassland habitat, six species are associated with riparian habitat, four are sagebrush-shrubsteppe species, and one is a species with a preference for breeding in hardwood draws (Johnsgard 1986, Ehrlich et al. 1988, Casey 2000) (see Appendix E).

Table 1. List of Bird Species Observed in Blaine County and Their Associated Conservation Status.

Species Common Name	Scientific Name	State (SOC) Rank Status	BLM Sensitive Species	MT PIF Rank
American Avocet	<i>Recurvirostra americana</i>			
American Bittern	<i>Botaurus lentiginosus</i>			III
American Goldfinch*	<i>Carduelis tristis</i>			
American Kestrel*	<i>Falco sparverius</i>			
American Robin	<i>Turdus migratorius</i>			
American White Pelican	<i>Pelecanus erythrorhynchos</i>	S3B		III
American Wigeon	<i>Anas americana</i>			
Baird's Sparrow	<i>Ammodramus bairdii</i>	S2B	X	I
Baltimore Oriole*	<i>Icterus galbula</i>	S3S4B		
Barn Swallow	<i>Hirundo rustica</i>			
Black Tern	<i>Chlidonias niger</i>	S3B	X	II
Black-billed Magpie	<i>Pica hudsonia</i>			
Blue-winged Teal	<i>Anas discors</i>			
Bobolink*	<i>Dolichonyx oryzivorus</i>	S2B		III
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>			III
Brewer's Sparrow*	<i>Spizella breweri</i>	S2B	X	II
Brown Thrasher	<i>Toxostoma rufum</i>			
Brown-headed Cowbird	<i>Molothrus ater</i>			
Burrowing Owl*	<i>Athene cunicularia</i>	S2B	X	I

Table 1. Continued

Species Common Name	Scientific Name	State (SOC) Rank Status	BLM Sensitive Species	MT PIF Rank
California Gull	<i>Larus californicus</i>			
Canada Goose*	<i>Branta canadensis</i>			
Chestnut-collared Longspur	<i>Calcarius ornatus</i>	S3B	X	II
Cinnamon Teal	<i>Anas cyanoptera</i>			
Clay-colored Sparrow	<i>Spizella pallida</i>			III
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>			
Common Nighthawk	<i>Chordeiles minor</i>			
Common Tern	<i>Sterna hirundo</i>	S3B		II
Common Yellowthroat	<i>Geothlypis trichas</i>			
Double-crested Cormorant	<i>Phalacrocorax auritus</i>			
Eared Grebe	<i>Podiceps nigricollis</i>			
Eastern Kingbird	<i>Tyrannus tyrannus</i>			
European Starling	<i>Sturnus vulgaris</i>			
Franklin's Gull*	<i>Larus pipixcan</i>	S3B	X	II
Forster's Tern	<i>Sterna forsteri</i>	S2B		II
Ferruginous Hawk*	<i>Buteo regalis</i>	S2B	X	II
Gadwall	<i>Anas strepera</i>			
Gray Catbird	<i>Dumetella carolinensis</i>			III
Gray Partridge*	<i>Perdix perdix</i>			
Great Blue Heron*	<i>Ardea herodias</i>	S3S4		
Great Horned Owl	<i>Bubo virginianus</i>			
Green-winged Teal	<i>Anas crecca</i>			
Horned Lark	<i>Eremophila alpestris</i>			
Killdeer	<i>Charadrius vociferus</i>			III
Lark Bunting	<i>Calamospiza melanocorys</i>	S3B		II
Lark Sparrow	<i>Chondestes grammacus</i>			III
Least Flycatcher*	<i>Empidonax minimus</i>			III
Lesser Scaup	<i>Aythya affinis</i>			
Lesser Yellowlegs	<i>Tringa flavipes</i>			II
Loggerhead Shrike	<i>Lanius ludovicianus</i>	S3B	X	II
Long-billed Curlew	<i>Numenius americanus</i>	S2B	X	II
Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>			II
Mallard	<i>Anas platyrhynchos</i>			
Marbled Godwit	<i>Limosa fedoa</i>		X	II
Marsh Wren	<i>Cistothorus palustris</i>			
McCown's Longspur*	<i>Calcarius mccownii</i>	S2B	X	II
Mourning Dove	<i>Zenaida macroura</i>			
Northern Flicker	<i>Colaptes auratus</i>			
Northern Harrier	<i>Circus cyaneus</i>			III
Northern Pintail	<i>Anas acuta</i>			
Northern Shoveler	<i>Anas clypeata</i>			
Palm Warbler*	<i>Dendroica palmarum</i>			
Prairie Falcon	<i>Falco mexicanus</i>		X	
Redhead*	<i>Aythya americana</i>			
Red-winged Blackbird	<i>Agelaius phoeniceus</i>			III

Table 1. Continued

Species Common Name	Scientific Name	State (SOC) Rank Status	BLM Sensitive Species	MT PIF Rank
Ring-billed Gull	<i>Larus delawarensis</i>			
Ring-necked Pheasant	<i>Phasianus colchicus</i>			
Rock Pigeon*	<i>Columba livia</i>			
Rock Wren*	<i>Salpinctes obsoletus</i>			
Ruddy Duck	<i>Oxyura jamaicensis</i>			
Savannah Sparrow	<i>Passerculus sandwichensis</i>			
Sharp-tailed Grouse	<i>Tympanuchus phasianellus</i>			
Song Sparrow	<i>Melospiza melodia</i>			III
Sora	<i>Porzana carolina</i>			
Spotted Sandpiper	<i>Actitis macularia</i>			
Spotted Towhee	<i>Pipilo maculatus</i>			
Sprague's Pipit	<i>Anthus spragueii</i>	S2B	X	I
Swainson's Hawk	<i>Buteo swainsoni</i>	S3B	X	III
Tree Swallow*	<i>Tachycineta bicolor</i>			
Upland Sandpiper	<i>Bartramia longicauda</i>			
Vesper Sparrow	<i>Poocetes gramineus</i>			
Virginia Rail	<i>Rallus limicola</i>			
Western Grebe	<i>Aechmophorus occidentalis</i>			
Western Kingbird	<i>Tyrannus verticalis</i>			
Western Meadowlark	<i>Sturnella neglecta</i>			
Willet	<i>Catoptrophorus semipalmatus</i>		X	III
Wilson's Phalarope	<i>Phalaropus tricolor</i>		X	III
Wilson's Snipe	<i>Gallinago delicata</i>			
Yellow Warbler	<i>Dendroica petechia</i>			
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>			III

*species recorded on BLM lands in Blaine County, but not during point counts

Montana Animal Species of Concern

(S = state rank status)

- S1** - At high risk because of extremely limited and/or rapidly declining populations, range, and/or habitat, making the species highly vulnerable to global extinction or extirpation in the state.
- S2** - At risk because of very limited and/or declining populations, range, and/or habitat, making it vulnerable to global extinction or extirpation in the state.
- S3** - Potentially at risk because of limited and/or declining populations, range, and/or habitat, even though it may be abundant in some areas.
- S4** - Uncommon but not rare (although it may be rare in parts of its range), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern.
- B** - State rank modifier indicating the breeding status for a migratory species.

Montana Partners in Flight Priority Levels

- I** Conservation Action: These are species for which Montana has clear obligations to implement conservation.
- II** Monitoring Species: Montana has a high responsibility to monitor the status of these species, and or to design conservation actions.
- III** Local Concern: Presence of these species may serve as added criteria in the design and selection of conservation or monitoring strategies (Casey 2000).

Species Abundance and Distribution

The Western Meadowlark was the most abundant species across all counts (112 individuals), followed by the Red-winged Blackbird (106 individuals), and

the Lark Bunting (83 individuals). Similarly, the Western Meadowlark, Red-winged Blackbird and Lark Bunting were the most broadly distributed, present in 52, 36, and 26 of the 58 counts, respectively (see Table 2). For a list of species recorded during the point counts for each individual site, see Appendix F.

Table 2. Species Listed in Order of Overall Abundance.

CommonName	Overall Abundance	Total Number of Point Counts Where Detected (n=58)
Western Meadowlark	112	52
Red-winged Blackbird	106	36
Lark Bunting	83	26
Yellow-headed Blackbird	46	9
Blue-winged Teal	41	17
Eastern Kingbird	41	20
Wilson's Phalarope	41	13
Chestnut-collared Longspur	36	13
Marbled Godwit	36	17
Horned Lark	35	21
Killdeer	33	19
Brewer's Blackbird	30	11
Lesser Scaup	29	11
Mallard	29	13
American Wigeon	26	12
Willet	26	16
Brown-headed Cowbird	25	11
Barn Swallow	23	12
Sprague's Pipit	21	17
Baird's Sparrow	16	10
Mourning Dove	15	9
Savannah Sparrow	15	10
Northern Shoveler	13	7
Yellow Warbler	13	8
Loggerhead Shrike	11	11
Ring-necked Pheasant	11	10
Brown Thrasher	10	9
Common Nighthawk	10	5
Double-crested Cormorant	10	5
Common Tern	9	4
Gadwall	9	5
California Gull	8	6
European Starling	8	2
Forster's Tern	8	2
Wilson's Snipe	8	7
Eared Grebe	6	2

Table 2. Continued

CommonName	Overall Abundance	Total Number of Point Counts Where Detected (n=58)
Long-billed Curlew	6	3
Spotted Sandpiper	6	5
Cliff Swallow	5	4
Lark Sparrow	5	4
Vesper Sparrow	5	5
Western Kingbird	5	3
American Robin	4	3
Black Tern	4	3
Northern Harrier	4	4
Northern Pintail	4	3
Ruddy Duck	4	1
Swainson's Hawk	4	4
Black-billed Magpie	3	3
Northern Flicker	3	2
Ring-billed Gull	3	2
American Avocet	2	2
American White Pelican	2	1
Clay-colored Sparrow	2	2
Common Yellowthroat	2	2
Marsh Wren	2	2
Prairie Falcon	2	1
Sharp-tailed Grouse	2	1
Sora	2	2
Spotted Towhee	2	2
Western Grebe	2	1
American Bittern	1	1
Cinnamon Teal	1	1
Gray Catbird	1	1
Great Horned Owl	1	1
Green-winged Teal	1	1
Lesser Yellowlegs	1	1
Long-billed Dowitcher	1	1
Song Sparrow	1	1
Upland Sandpiper	1	1
Virginia Rail	1	1

Species in **bold** are Montana Species of Concern.

Breeding Evidence

Direct evidence of breeding (nests with eggs or nestlings, or recently fledged dependent young) was confirmed for Canada Goose, Mallard, Cinnamon Teal, Northern Pintail, Swainson's Hawk, Killdeer, Great Horned Owl, Loggerhead Shrike, American Robin, Vesper Sparrow, and Western Meadowlark. Behavior observed for Forster's Tern at an island at Reser Reservoir (feeding and noisy raucous calling)

strongly indicated breeding in the area (McNicholl et al. 2001), although no observations were made of eggs or young in or out of the nest. Breeding is presumed for other species recorded during the point counts because the field inventory occurred during the breeding season and observations included singing males and territorial displays in appropriate breeding habitat. Information from the Montana Bird Distribution database confirms breeding or indicates

indirect evidence of breeding for the project area in Blaine County for most of the species observed during this project (see Appendix G).

Documented Species of Concern

Seventeen species of concern were documented in Blaine County (see Table 1); eleven were observed during the formal point count surveys. Listed in decreasing order of abundance they include Lark Bunting, Chestnut-collared Longspur, Sprague's Pipit, Baird's Sparrow, Loggerhead Shrike, Common Tern, Forster's Tern, Long-billed Curlew, Black Tern, Swainson's Hawk, and American White Pelican. Two species, although not dependent on riparian areas, may utilize this habitat during the breeding season. The Swainson's Hawk is more closely associated with habitat present in hardwood draws, but may nest in riparian vegetation. Likewise, the Loggerhead Shrike, considered a sagebrush/shrubsteppe species, will take advantage of shrubs present along riparian corridors for nesting.

Although the **American White Pelican** is broadly distributed across the state, only four locations are active breeding sites. Bowdoin National Wildlife Refuge, located in Phillips County, is the closest location to Blaine County with a confirmed breeding colony (MBD 2005). This species generally forages by surface feeding on lakes and large rivers and may travel distances greater than 50 km from nesting locations for suitable foraging sites (Johnsgard 1986, Evans and Knopf 1993). The American White Pelican does not reach sexual maturity until the age of three, but may breed every year thereafter (Evans and Knopf 1993).

Generally a species of a grassland or shrubland landscapes, the **Swainson's Hawk** typically nests in trees scattered within this matrix. If trees are not present, then willow (*Salix* spp.) along riparian areas may also be utilized for nesting sites (England et al. 1997). In addition to foraging in native grasslands, agricultural crops may be used for foraging if prey is present and the crop height does not exceed that of native grasses (England et al. 1997).

The **Long-billed Curlew** prefers moderate to heavily grazed short to mixed grassland (Samson and Knopf

1996, Dugger and Dugger 2002). In general, the Long-billed Curlew will select nesting sites in open, sparsely vegetated prairie, while sites with taller, denser grass are preferred for brood rearing (Dugger and Dugger 2002).

The **Common Tern** is a colonial ground nesting species, usually lining a scrape of a nest with pebbles or other loose material found around the nest site. Colonies may consist of tens of pairs to thousands of individuals (Ehrlich et al. 1988). If available, the Common Tern usually nests on islands that often aid in the protection of young from predators. Some of the most common features of nest site selection include close proximity to water, a sandy or gravelly substrate, and an area with scattered vegetation for chicks to use as protective shelter (Nisbet 2002). The main source of food for this species is small fish (Ehrlich et al. 1988, Nisbet 2002).

The **Forster's Tern** generally breeds in open water wetlands. One of the key features of suitable nesting habitat are vegetated islands or floating vegetation within open water that mimic islands (McNicholl et al. 2001). The primary item in this tern's diet is small fish, with the balance comprised of insects and aquatic invertebrates (Ehrlich et al. 1988). In Montana, the Forster's Tern is restricted to scattered breeding locations east of the Continental Divide and generally north of the Missouri River (Lenard et al. 2003).

The **Black Tern** is a semicolonial nesting species, generally building a floating nest among emergent wetland vegetation in freshwater marshes. The choice of nest site selection appears more dependent upon the availability of nesting substrate and density of emergent vegetation than water depth or specific plant species presence (Dunn and Agro 1995). Unlike other terns, the Black Tern will supplement its fish diet with insects, and forages low over land as well as water.

The **Loggerhead Shrike** breeds in isolated trees or large shrubs found within grassland landscapes (Yosef 1996). Suitable perching sites (shrubs, low trees, and fences) surrounded by grassland habitat provide an ideal foraging environment. Also known as the "Butcherbird" this species hunts a wide variety of smaller organisms (e.g. invertebrates, amphibians, reptiles, birds) which it may impale on barbed wire

fences or branches with suitable thorn-like appendages in order to tear up the prey into bite-sized pieces.

Breeding habitat for **Sprague's Pipit** is restricted to appropriate mixed-grass habitat primarily in three states (Montana, North Dakota, and South Dakota) and three provinces (Alberta, Saskatchewan, and Manitoba) (Samson and Knopf 1996, Johnsgard 2001). This pipit's breeding habitat, like that of the Baird's Sparrow, is one of the most limited for grassland endemics (Johnsgard 2001). Sprague's Pipits are far more abundant in native grasslands than in haylands or croplands, and may be fully absent in pastures dominated by non-native species (Robbins and Dale 1999, Johnsgard 2001). Grasslands of intermediate height and density with moderate litter depths are preferred (Robbins and Dale 1999). The Sprague's Pipit tends to favor grasslands with moderate to no grazing.

A Great Plains prairie endemic species, the **Lark Bunting** prefers areas of light to moderately heavy grazing (Samson and Knopf 1996). Breeding generally takes place in large, open grasslands of low to moderate height with limited open ground and the presence of some scattered shrubs, such as sagebrush (Johnsgard 2001). Timing of grazing may play a large role in the suitability of breeding sites; heavy summer grazing has been found to be detrimental (Shane 2000). The Lark Bunting was the most abundant Species of Concern recorded during this project.

The **Baird's Sparrow** is an endemic prairie species confined to the northern Great Plains. This migratory songbird prefers mixed-grass and fescue prairie with a scattering of low shrubs and residual vegetation (Green et al. 2002). This species prefers large blocks of lightly grazed to ungrazed mid-grass prairie, and is described as "not extremely abundant anywhere in its range" (Johnsgard 2001).

The **Chestnut-collared Longspur** (along with the Sprague's Pipit, Baird's Sparrow, Lark Bunting, and McCown's Longspur) is identified as one of the primary (endemic) passerine species of the Great Plains (Samson and Knopf 1996). Historically, the Chestnut-collared Longspur is known to have bred in sites recently grazed by bison (*Bison bison*) or disturbed by fire (Hill and Gould 1997). This species

is currently known to occupy habitat exposed to a range of grazing pressure, from none to moderately heavy (Samson and Knopf 1996).

Additional Species of Concern Observed on BLM Lands During the Project Visit

Six Species of Concern were observed on BLM lands during the field visit to the project sites, but not during the formal point count surveys: Ferruginous Hawk, Franklin's Gull, Burrowing Owl, Brewer's Sparrow, McCown's Longspur, and Bobolink.

In eastern Montana, the **Ferruginous Hawk** is a prairie raptor with a diet primarily limited to black-tailed prairie dogs (*Cynomys ludovicianus*) and Richardson's ground squirrels (*Spermophilus richardsonii*) (Bechard and Schmutz 1995, Foresman 2001). Nesting can take place on cliff/rock edges, conifers and, occasionally, man-made structures (Johnsgard 1986).

Nesting on water, the **Franklin's Gull** builds a floating mat or utilizes floating debris or muskrat houses as a platform for a nest site. Rarely will the species nest in flooded meadows (Burge and Gochfeld 1994). Only a few nesting locations have been documented in Montana; Bowdoin National Wildlife Refuge in Phillips County is the nearest recorded nesting location to the project area (MBD 2005).

The **Burrowing Owl** is a species of short and mixed grass prairies, generally found in association with prairie dogs and other burrowing mammals. As this owl does not excavate its own burrow, the presence of available nesting sites may limit this species during the breeding season (Haug et al. 1993). The primary foods for the Burrowing Owl are invertebrates, rodents, lizards, and birds (Ehrlich et al. 1988).

The **Brewer's Sparrow** is a Species of Concern closely associated with a big sagebrush (*Artemisia tridentata*) dominated landscapes rather than short or mid-grass prairie (Rotenberry et al. 1999). This sparrow generally prefers shrubby habitat with low shrub species diversity, limited amounts of grass, greater forb presence, and significant bare ground (Johnsgard 2001).

McCown's Longspur generally prefers a heavily grazed landscape for nesting and can be found in areas of moderate to very heavy grazing pressure (With 1994, Samson and Knopf 1996). Distribution of this species is primarily restricted to sparsely vegetated and open, semi-arid shortgrass habitat, or overgrazed pastures generally comprised of shortgrass species mixed with limited cover of mid-grass species, shrubs, and cactus (With 1994). Breeding of the McCown's Longspur may occur in the same general location as that of the Chestnut-collared Longspur, but rarely will they breed in the same pasture unless a mosaic of both short and mid-grasses are present (With 1994).

Originally a species of tall and mixed-grass prairie of the Midwest, the distribution of the **Bobolink** changed as land within historic breeding areas was altered by intensive agricultural activities (Martin and Gavin 1995). In Montana, this species is generally found in moist, relatively dense grasslands with little to no woody vegetation (Casey 2000). Bobolinks prefer large blocks of habitat and may not be present in areas smaller than 40 hectares (Casey 2000).

Species of Potential Concern

Two additional species, the Baltimore Oriole and Great Blue Heron, identified as Species of Potential Concern,

were also observed on BLM lands during this project (MTNHP 2004). Species are given the status of 'Species of Potential Concern' when the state rank attributed to the species is below the S3 cutoff (e.g. S3S4). Both of the following species fall into the S3S4 rank category (see Appendix A).

Generally a fish eater, the **Great Blue Heron** hunts by wading along shorelines of rivers and open-water wetlands. Rodents found in upland areas may supplement their diet, especially in winter (Butler 1992). The Great Blue Heron is a colonial tree nesting species with breeding opportunities limited by available mature deciduous trees for nest sites (Ehrlich et al. 1988, Butler 1992). The nesting behavior of this heron makes it particularly vulnerable during the breeding season, supporting attention focused on the conservation of the species.

Once lumped with the Bullock's Oriole under the name Northern Oriole, the **Baltimore Oriole** is a species of deciduous riparian woodlands. Broadly distributed east of the Rocky Mountains, this species prefers larger, taller, and more openly spaced trees than some other oriole species (Rising and Flood 1998).

CONCLUSIONS AND RECOMMENDATIONS

Although much of the prime riparian habitat in Blaine County is currently under private ownership, many BLM parcels may have the potential to provide important riparian habitat to an array of wildlife species, including those of conservation concern. Many streams in the more northerly portions of the county, in areas with slower flowing streams (and hence less aerobic conditions), are more likely to be herbaceous-dominant riparian systems (P. Hansen, personal communication 2006). Faster flowing streams in the project area are associated with greater topographic relief, and are more likely to support vegetation communities with shrubs and trees. On some streams it is more likely that dewatering and alterations to the natural flood cycle have had the greatest impact on the quality of available riparian vegetation (P. Hansen, personal communication 2006).

However, the significant impact grazing can have on reducing riparian habitat quality and negatively affecting the associated bird communities is well documented (Taylor 1985, Sedgewick and Knopf 1987, Fleischner 1994, Stanley and Knopf 2002, Krueper et al. 2003, Scott et al. 2003). The combined impact of these two activities, plus the construction of small dams on many of the tributaries to the Milk River greatly reduce the likelihood of future tree recruitment (Jones 2003). The primary conservation need identified for riparian bird species as a result of this project is to survey all stream systems in Blaine County to 1) classify the vegetation cover potential, 2) identify actions necessary to restore natural disturbance regimes (i.e. flooding, fire, grazing), and 3) implement appropriate actions needed to conserve these riparian corridors.

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APPENDIX A. GLOBAL/STATE RANK DEFINITIONS

HERITAGE PROGRAM RANKS

The international network of Natural Heritage Programs employs a standardized ranking system to denote global (range-wide) and state status. Species are assigned numeric ranks ranging from 1 to 5, reflecting the relative degree to which they are “at-risk”. Rank definitions are given below. A number of factors are considered in assigning ranks — the number, size and distribution of known “occurrences” or populations, population trends (if known), habitat sensitivity, and threat. Factors in a species’ life history that make it especially vulnerable are also considered (e.g., dependence on a specific pollinator).

GLOBAL RANK DEFINITIONS (NatureServe 2003)

- G1 Critically imperiled because of extreme rarity and/or other factors making it highly vulnerable to extinction
- G2 Imperiled because of rarity and/or other factors making it vulnerable to extinction
- G3 Vulnerable because of rarity or restricted range and/or other factors, even though it may be abundant at some of its locations
- G4 Apparently secure, though it may be quite rare in parts of its range, especially at the periphery
- G5 Demonstrably secure, though it may be quite rare in parts of its range, especially at the periphery
- T1-5 **Infraspecific Taxon** (trinomial) —The status of infraspecific taxa (subspecies or varieties) are indicated by a “T-rank” following the species’ global rank

STATE RANK DEFINITIONS

- S1 At high risk because of extremely limited and potentially declining numbers, extent and/or habitat, making it highly vulnerable to extirpation in the state
- S2 At risk because of very limited and potentially declining numbers, extent and/or habitat, making it vulnerable to extirpation in the state
- S3 Potentially at risk because of limited and potentially declining numbers, extent and/or habitat, even though it may be abundant in some areas
- S4 Uncommon but not rare (although it may be rare in parts of its range), and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern
- S5 Common, widespread, and abundant (although it may be rare in parts of its range). Not vulnerable in most of its range

COMBINATION RANKS

G#G# or S#S# **Range Rank**—A numeric range rank (e.g., G2G3) used to indicate uncertainty about the exact status of a taxon

QUALIFIERS

- NR Not ranked
- Q **Questionable taxonomy that may reduce conservation priority**—Distinctiveness of this entity as a taxon at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or inclusion of this taxon in another taxon, with the resulting taxon having a lower-priority (numerically higher) conservation status rank

X	Presumed Extinct —Species believed to be extinct throughout its range. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered
H	Possibly Extinct —Species known from only historical occurrences, but may nevertheless still be extant; further searching needed
U	Unrankable —Species currently unrankable due to lack of information or due to substantially conflicting information about status or trends
HYB	Hybrid —Entity not ranked because it represents an interspecific hybrid and not a species
?	Inexact Numeric Rank —Denotes inexact numeric rank
C	Captive or Cultivated Only —Species at present is extant only in captivity or cultivation, or as a reintroduced population not yet established
A	Accidental —Species is accidental or casual in Montana, in other words, infrequent and outside usual range. Includes species (usually birds or butterflies) recorded once or only a few times at a location. A few of these species may have bred on the one or two occasions they were recorded
Z	Zero Occurrences —Species is present but lacking practical conservation concern in Montana because there are no definable occurrences, although the taxon is native and appears regularly in Montana
P	Potential —Potential that species occurs in Montana but no extant or historic occurrences are accepted
R	Reported —Species reported in Montana but without a basis for either accepting or rejecting the report, or the report not yet reviewed locally. Some of these are very recent discoveries for which the program has not yet received first-hand information; others are old, obscure reports
SYN	Synonym —Species reported as occurring in Montana, but the Montana Natural Heritage Program does not recognize the taxon; therefore the species is not assigned a rank
*	A rank has been assigned and is under review. Contact the Montana Natural Heritage Program for assigned rank
B	Breeding —Rank refers to the breeding population of the species in Montana
N	Nonbreeding —Rank refers to the non-breeding population of the species in Montana

**APPENDIX B. SAMPLE PHOTOS OF CHARACTERISTIC SITE
VEGETATION**



Photo 1. Example of an herbaceous-dominated riparian zone: Woody Island Coulee



Photo 2. Example of typical riparian vegetation found on the project: Tributary to East Fork Battle Creek



Photo 3. Juvenile Great Horned Owls on the site with the most complex riparian habitat in the project: Lodge Creek



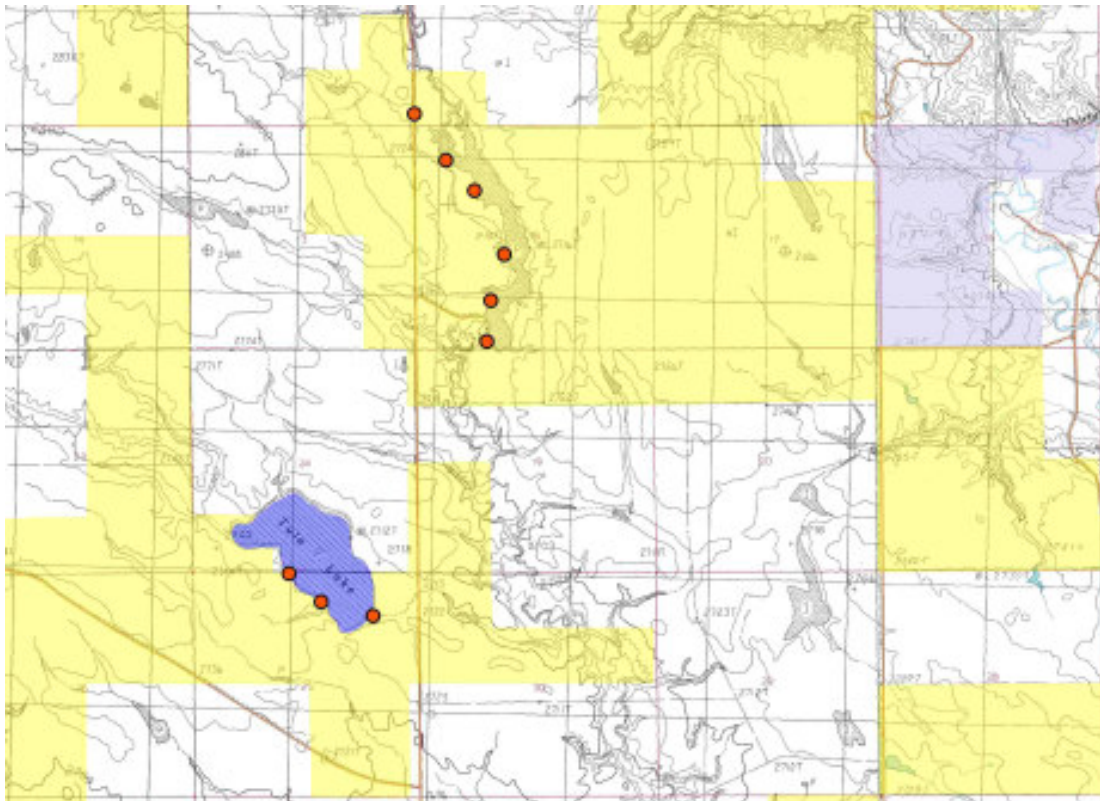
Photo 4. Riparian zone of mature cottonwood trees: private land in Blaine County

APPENDIX C. SURVEY SITES WITH POINT COUNT LOCATIONS

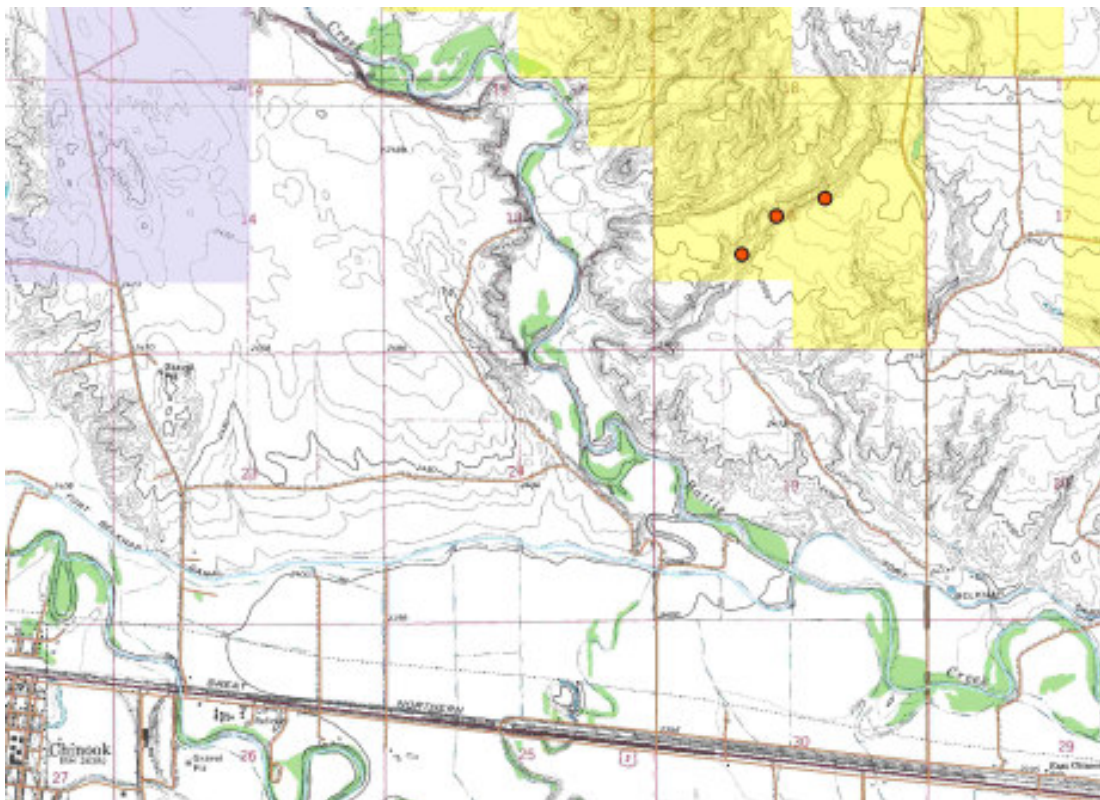
LOCATION	POINT ID	LATITUDE	LONGITUDE	TOWNSHIP	RANGE	SECTION
15-MILE RESERVOIR	BL01A	48.6994174	-109.03873	34N	21E	18
	BL01B	48.7020646	-109.038328	34N	21E	18
	BL01C	48.7050467	-109.0369887	34N	21E	18
15-MILE RESERVOIR	BL02A	48.7091984	-109.0398723	34N	21E	18
	BL02B	48.7111799	-109.0426501	34N	21E	18
	BL02C	48.7142007	-109.0457006	34N	21E	7
TULE LAKE	BL03A	48.6817001	-109.0500333	34N	20E	25
	BL03B	48.6826167	-109.0550833	34N	20E	25
	BL03C	48.6844667	-109.0582	34N	20E	25
SALMO RESERVOIR	BL04A	48.6190167	-109.1672833	33N	20E	18
	BL04B	48.6169833	-109.1700833	33N	20E	18
	BL04C	48.61995	-109.16335	33N	20E	18
TRIB TO EAST FORK BATTLE CREEK	BL05A	48.9027338	-109.2847842	36N	19E	5
	BL05B	48.9056682	-109.2842879	36N	19E	5
	BL05C	48.9084204	-109.2836341	36N	19E	5
EAST FORK BATTLE CREEK	BL06A	48.8845333	-109.2727	36N	19E	17
	BL06B	48.8859501	-109.2692167	36N	19E	17
	BL06C	48.8843	-109.2658	36N	19E	17
EAST FOR BATTLE CREEK	BL07A	48.8879834	-109.2649666	36N	19E	9
	BL07B	48.8890167	-109.2615333	36N	19E	9
	BL07C	48.8917334	-109.25795	36N	19E	9
BATTLE CREEK	BL08A	48.7723863	-109.2958313	35N	19E	19
	BL08B	48.7735501	-109.3015358	35N	19E	19
	BL08C	48.7761681	-109.3003176	35N	19E	19
LODGE CREEK	BL09A	48.7729184	-109.409179	35N	18E	20
	BL09B	48.7730141	-109.4050382	35N	18E	20
	BL09C	48.7720365	-109.3987675	35N	18E	20
EAST FORK BATTLE CREEK	BL10A	48.8469016	-109.3023681	36N	19E	30
	BL10B	48.8416017	-109.3041283	36N	19E	31
	BL10C	48.8392504	-109.3020816	36N	19E	31
EAST FORK BATTLE CREEK	BL11A	48.9076843	-109.2284273	36N	19E	3
	BL11B	48.9062465	-109.2320537	36N	19E	3
	BL11C	48.9036308	-109.231027	36N	19E	3
BATTLE CREEK	BL12A	48.8116834	-109.31895	35N	18E	12
	BL12B	48.8116833	-109.3232	35N	18E	12
	BL12C	48.8090167	-109.32635	35N	18E	12

LOCATION	POINT ID	LATITUDE	LONGITUDE	TOWNSHIP	RANGE	SECTION
WOODY ISLAND COULEE	BL13A	48.9486201	-108.5444123	37N	24E	23
	BL13B	48.9472365	-108.5478814	37N	24E	22
	BL13C	48.9449834	-108.5504833	37N	24E	22
WOODY ISLAND COULEE	BL14A	48.9466333	-108.5276167	37N	24E	23
	BL14B	48.9470667	-108.53175	37N	24E	23
	BL14C	48.9464834	-108.5357833	37N	24E	23
WOODY ISLAND COULEE	BL15A	48.9434983	-108.5157355	37N	24E	24
	BL15B	48.9436035	-108.5197868	37N	24E	24
	BL15C	48.9440191	-108.524055	37N	24E	23
30-MILE CREEK	BL16A	48.5831667	-108.8310833	33N	22E	27
	BL16B	48.58455	-108.8346167	33N	22E	27
	BL16C	48.5864	-108.8380333	33N	22E	27
BADGER CREEK	BL17A	48.6874667	-109.4973333	34N	17E	22
	BL17B	48.6853667	-109.5000667	34N	17E	22
MUD LAKE	BL19A	48.59025	-108.6156166	33N	24E	29
	BL19B	48.5867323	-108.6107862	33N	24E	29
RESERVOIR COULEE	BL20A	48.69705	-109.4267667	34N	18E	19
	BL20B	48.6931833	-109.42335	34N	18E	19
	BL20C	48.6909833	-109.4268833	34N	18E	19
RESER CREEK/RESERVOIR	BL21A	48.7181333	-109.40115	34N	18E	8
	BL21B	48.71655	-109.3976	34N	18E	8
	BL21C	48.7151	-109.4012	34N	18E	8

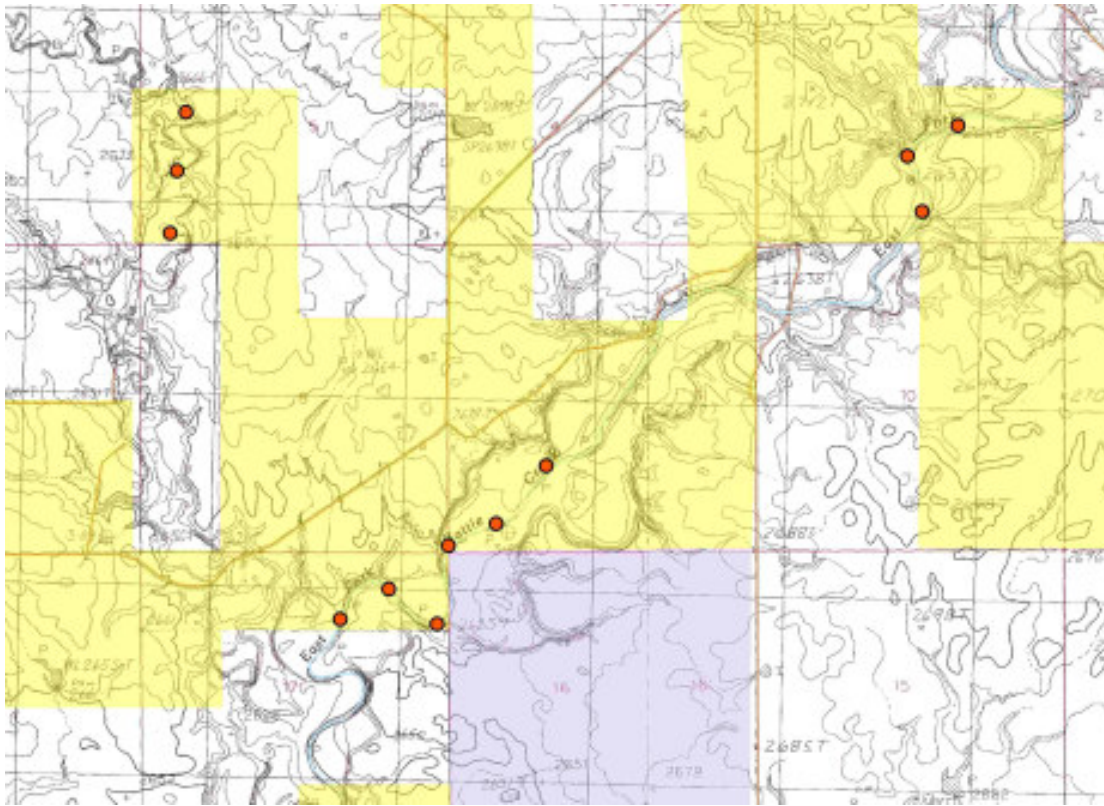
APPENDIX D. MAPPED POINT COUNT LOCATIONS



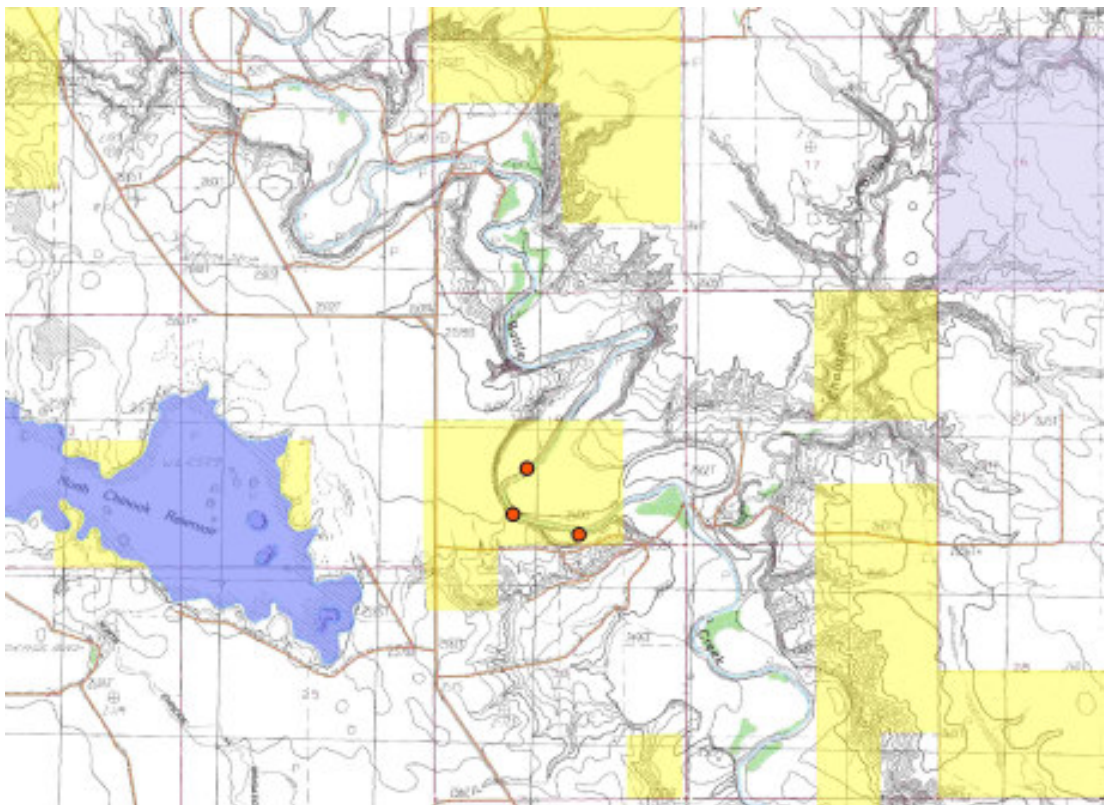
Map 1. Thule Lake and 15 Mile Reservoir



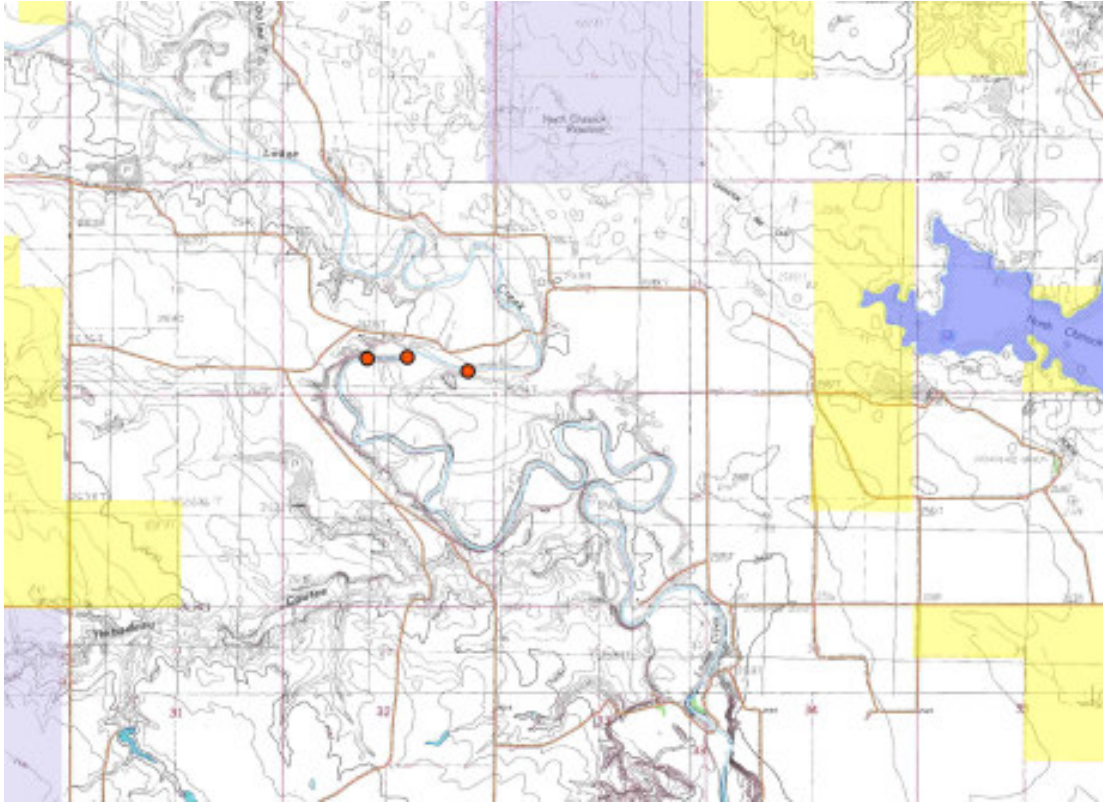
Map 2. Salmo Reservoir



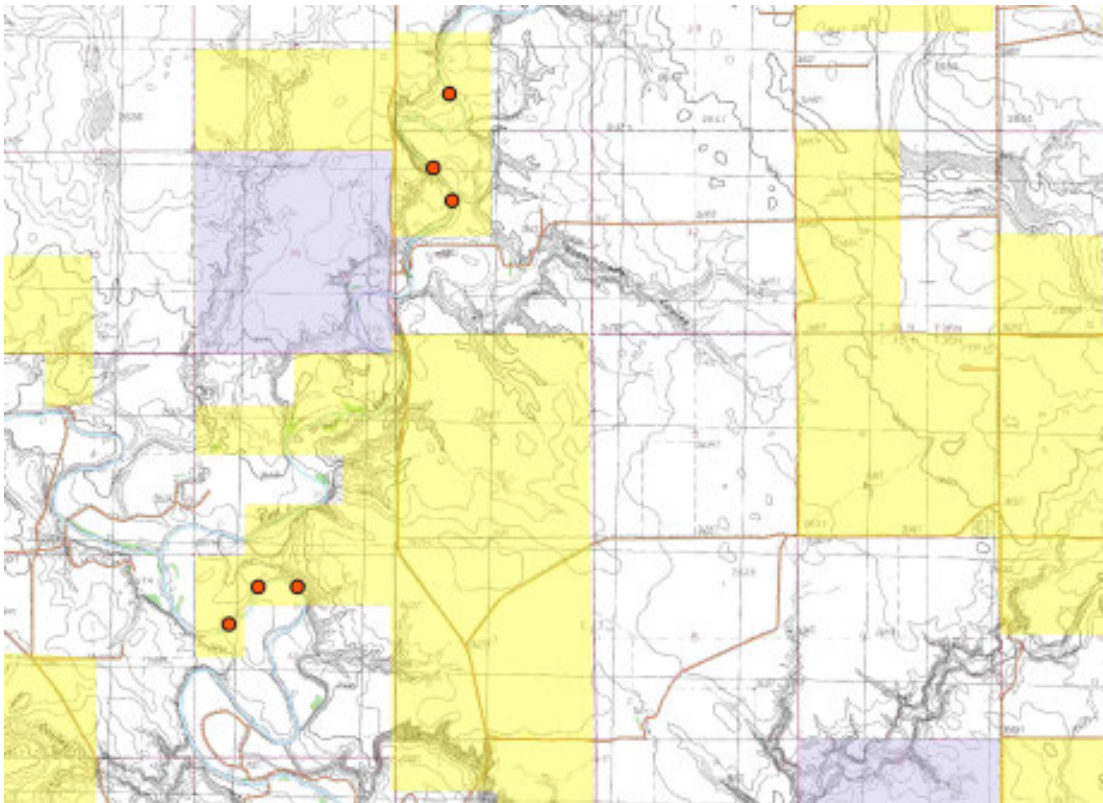
Map 3. East Fork Battle Creek and Tributary to East Fork Battle Creek



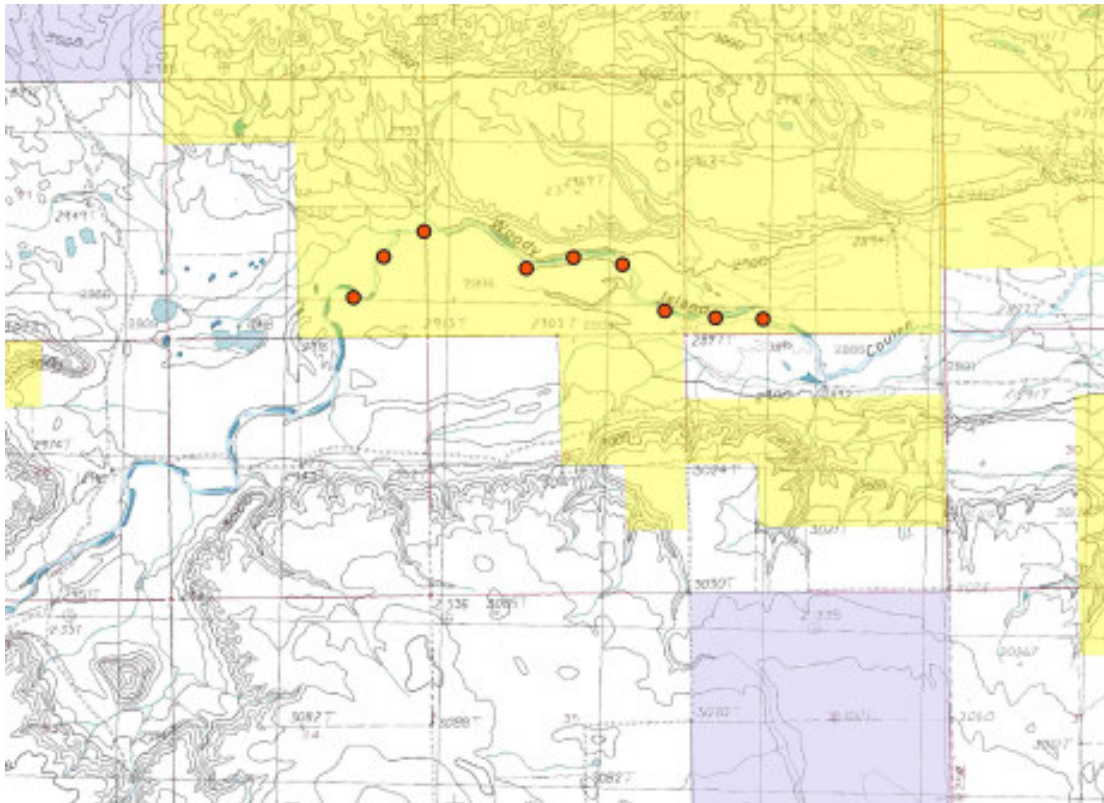
Map 4. Battle Creek



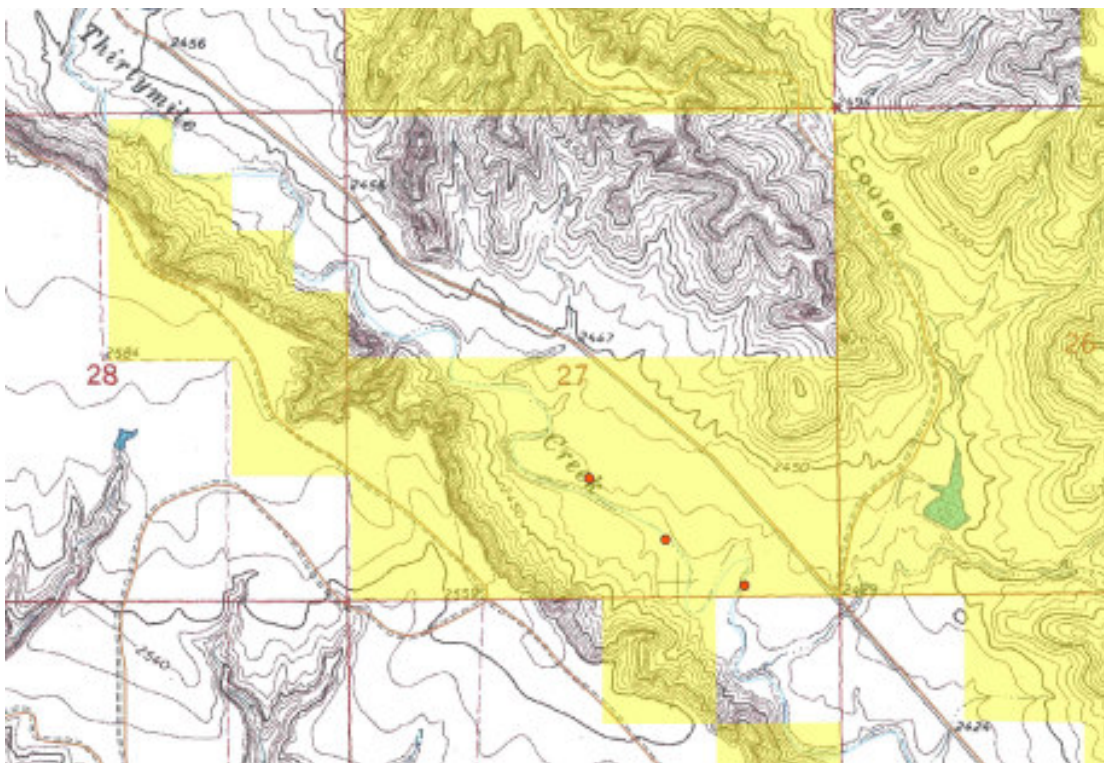
Map 5. Lodge Creek (the area surveyed is under BLM jurisdiction as Bankhead-Jones Land although the map indicates otherwise).



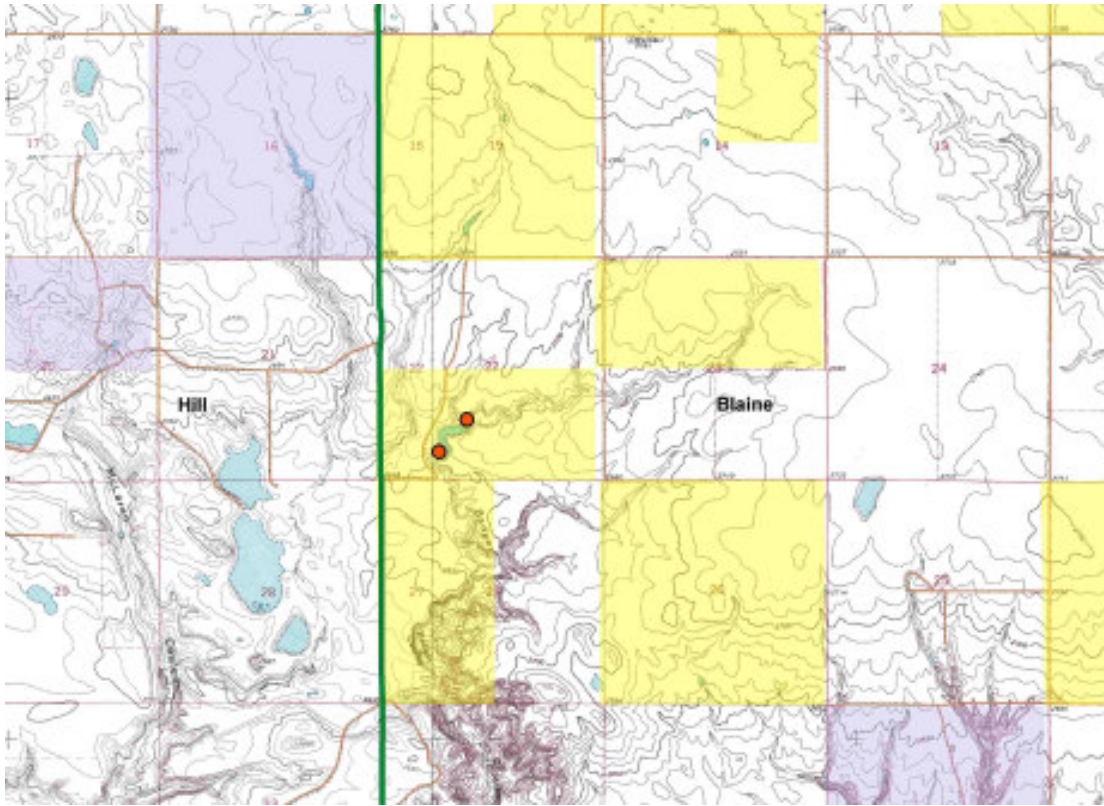
Map 6. Battle Creek and East Fork Battle Creek



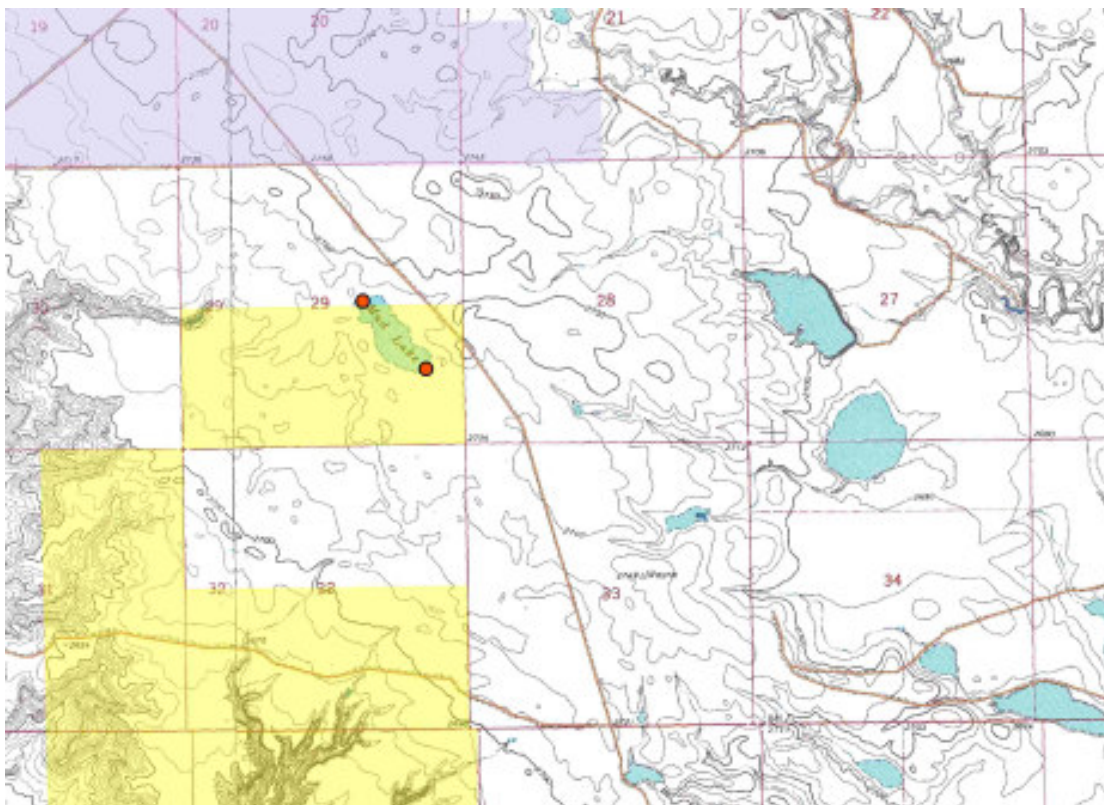
Map 7. Woody Island Coulee



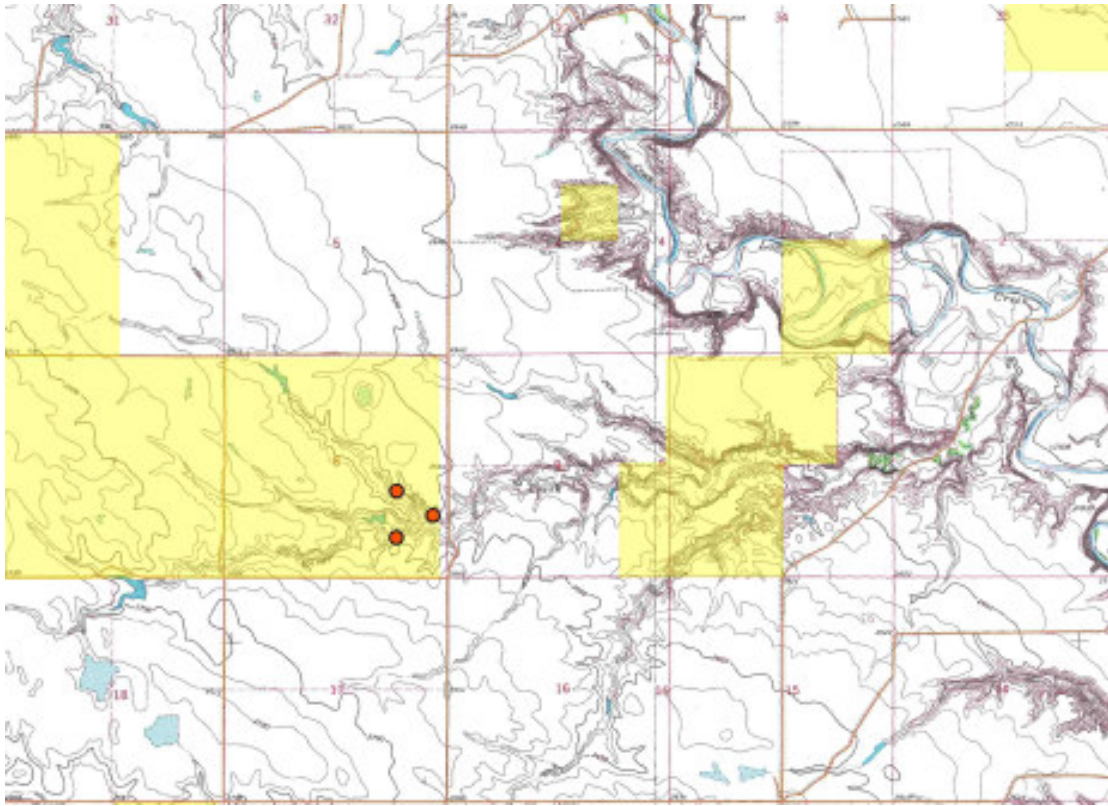
Map 8. 30-Mile Creek



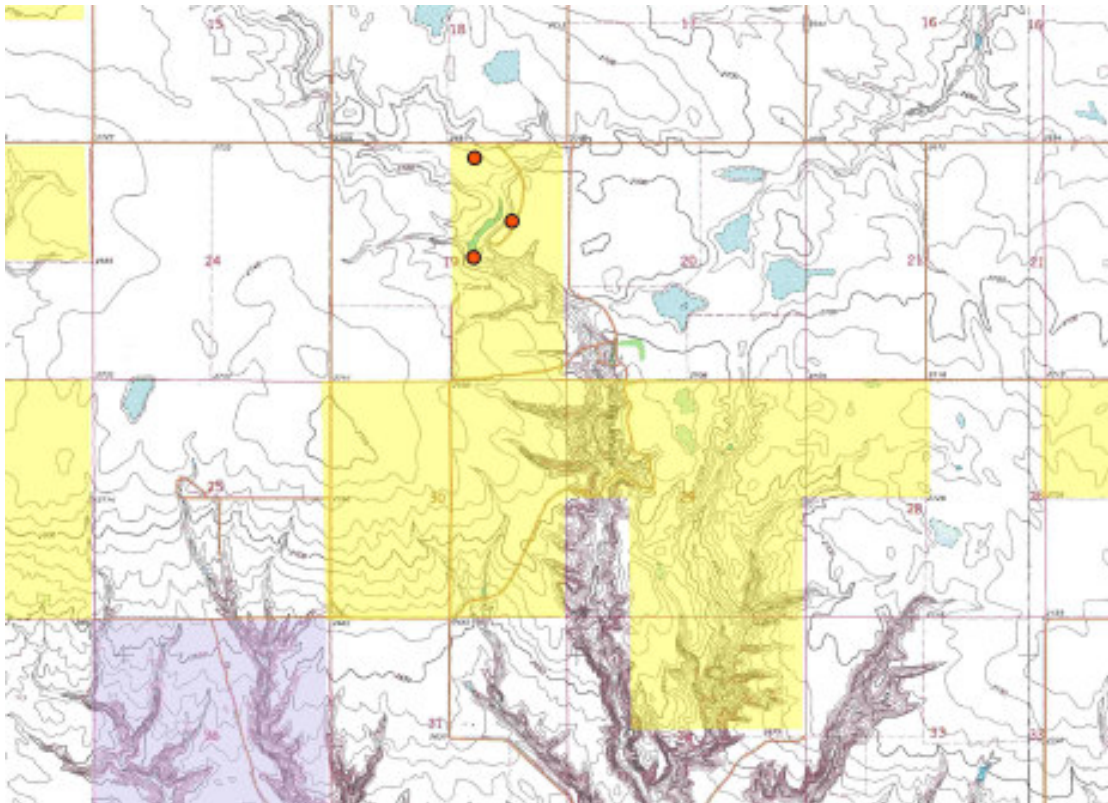
Map 9. Badger Creek



Map 10. Mud Lake



Map 11. Reser Reservoir



Map 12. Reservoir Coulee

**APPENDIX E. HABITAT ASSOCIATION TABLE FOR STATE SPECIES OF
CONCERN**

Species Common Name	Habitat Association	State SOC list rank	BLM sensitive species	MT PIF Rank
Brewer's Blackbird	Prairie/Grassland (low stature)			III
Baird's Sparrow	Mixed-grass Prairie	S2B	X	I
Burrowing Owl*	Mixed-grass Prairie	S2B	X	I
Chestnut-collared Longspur	Mixed-grass Prairie	S3B	X	II
Ferruginous Hawk*	Mixed-grass Prairie	S2B	X	II
Lark Bunting	Mixed-grass Prairie	S3B		II
Long-billed Curlew	Mixed-grass Prairie	S2B	X	II
McCown's Longspur*	Mixed-grass Prairie	S2B	X	II
Northern Harrier	Mixed-grass Prairie			III
Sprague's Pipit	Mixed-grass Prairie	S2B	X	I
Bobolink*	Mixed-grass Prairie (moist)	S2B		III
Prairie Falcon	Prairie/sagebrush		X	
Black Tern	Prairie Pothole	S3B	X	II
Forster's Tern	Prairie Pothole	S2B		II
Franklin's Gull*	Prairie Pothole	S3B	X	II
Marbled Godwit	Prairie Pothole		X	II
Willet	Prairie Pothole		X	III
Wilson's Phalarope	Prairie Pothole		X	III
American White Pelican	Reservoir Wetland	S3B		III
American Bittern	Wetland			III
Common Tern	Wetland	S3B		II
Red-winged Blackbird	Wetland			III
Yellow-headed Blackbird	Wetland			III
Greater Yellowlegs	Wetland/irrigation reservoir			II
Lesser Yellowlegs	Wetland/irrigation reservoir			II
Great Blue Heron*	Cottonwood Riparian	S3S4		
Baltimore Oriole*	Riparian	S3S4B		
Killdeer	Riparian			III
Least Flycatcher*	Riparian			III
Gray Catbird	Riparian Shrub			III
Song Sparrow	Riparian Shrub			III
Brewer's Sparrow*	Sagebrush/shrubsteppe	S2B	X	II
Lark Sparrow	Sagebrush/shrubsteppe			III
Loggerhead Shrike	Sagebrush/shrubsteppe	S3B	X	II
Clay-colored Sparrow	Shrubland			III
Swainson's Hawk	Hardwood Draw	S3B	X	III

* Species observed on BLM land, but not during formal point count work.

APPENDIX F. BIRD LIST FOR EACH SURVEY LOCATION

Common Name	Abundance	Distribution
FIFTEENMILE RESERVOIR - South end T34N R21E Section 18	Total number of individuals recorded	Number of points along transect species was detected (n=3)
American Avocet	2	2
Barn Swallow	3	2
Black Tern	2	1
Blue-winged Teal	1	1
Brewer's Blackbird	2	1
Brown-headed Cowbird	2	1
Cinnamon Teal	1	1
Common Tern	4	3
Eared Grebe	4	1
Eastern Kingbird	5	1
Horned Lark	1	1
Killdeer	5	2
Lark Bunting	19	2
Lesser Scaup	3	2
Mallard	3	2
Marbled Godwit	8	3
Red-winged Blackbird	2	1
Song Sparrow	1	1
Upland Sandpiper	1	1
Western Meadowlark	3	2
Willet	9	3
Wilson's Phalarope	1	1
Yellow Warbler	1	1
Yellow-headed Blackbird	6	2

Common Name	Abundance	Distribution
FIFTEENMILE RESERVOIR - North end T34N R21E Sections 7 and 18	Total number of individuals recorded	Number of points along transect species was detected (n=3)
American Bittern	1	1
Barn Swallow	4	2
Black Tern	1	1
Blue-winged Teal	2	1
Brown-headed Cowbird	2	1
California Gull	1	1
Common Tern	5	1
Common Yellowthroat	2	2
Eastern Kingbird	2	1
Killdeer	6	2
Lark Bunting	1	1
Lesser Scaup	1	1
Mallard	2	1
Marbled Godwit	1	1
Marsh Wren	2	2
Red-winged Blackbird	5	1
Ruddy Duck	4	1

Common Name	Abundance	Distribution
FIFTEENMILE RESERVOIR - North end T34N R21E Sections 7 and 18	Total number of individuals recorded	Number of points along transect species was detected (n=3)
Savannah Sparrow	2	2
Sora	2	2
Virginia Rail	1	1
Western Meadowlark	2	2
Willet	1	1
Wilson's Phalarope	3	2
Yellow-headed Blackbird	30	3

Common Name	Abundance	Distribution
TULE LAKE T34N 20E Section 25	Total number of individuals recorded	Number of points along transect species was detected (n=3)
Baird's Sparrow	3	3
Barn Swallow	2	1
Black Tern	1	1
Blue-winged Teal	3	1
California Gull	4	2
Chestnut-collared Longspur	10	3
Horned Lark	3	2
Killdeer	3	2
Long-billed Curlew	1	1
Marbled Godwit	3	2
Red-winged Blackbird	1	1
Savannah Sparrow	2	1
Sprague's Pipit	1	1
Western Meadowlark	4	3
Willet	2	1
Wilson's Phalarope	2	2

Common Name	Abundance	Distribution
SALMO RESERVOIR T33N 20E Section 18	Total number of individuals recorded	Number of points along transect species was detected (n=3)
American Robin	2	1
Barn Swallow	1	1
Brewer's Blackbird	2	1
Brown-headed Cowbird	2	1
California Gull	1	1
Cliff Swallow	2	1
Double-crested Cormorant	1	1
Eastern Kingbird	7	3
Green-winged Teal	1	1
Horned Lark	3	2
Killdeer	6	3
Loggerhead Shrike	1	1
Marbled Godwit	2	1
Mourning Dove	2	2

Common Name	Abundance	Distribution
SALMO RESERVOIR T33N 20E Section 18	Total number of individuals recorded	Number of points along transect species was detected (n=3)
Northern Flicker	2	1
Red-winged Blackbird	3	2
Ring-necked Pheasant	1	1
Spotted Sandpiper	2	2
Vesper Sparrow	1	1
Western Kingbird	1	1
Western Meadowlark	9	3
Yellow Warbler	2	1

Common Name	Abundance	Distribution
Tributary of EAST FORK BATTLE CREEK T36N R19E Section 5	Total number of individuals recorded	Number of points along transect species was detected (n=3)
American Wigeon	3	1
Blue-winged Teal	4	1
Brewer's Blackbird	7	2
Brown Thrasher	1	1
Brown-headed Cowbird	1	1
Eastern Kingbird	4	2
Horned Lark	3	2
Loggerhead Shrike	2	2
Mallard	5	2
Red-winged Blackbird	5	3
Sprague's Pipit	3	3
Western Meadowlark	6	3

Common Name	Abundance	Distribution
EAST FORK BATTLE CREEK T36N R19E Section 17	Total number of individuals recorded	Number of points along transect species was detected (n=3)
Blue-winged Teal	2	1
Eastern Kingbird	1	1
Gadwall	2	1
Horned Lark	2	1
Lark Bunting	8	3
Lesser Scaup	8	3
Loggerhead Shrike	1	1
Mourning Dove	1	1
Red-winged Blackbird	9	3
Sprague's Pipit	1	1
Vesper Sparrow	1	1
Western Meadowlark	9	3

Common Name	Abundance	Distribution
EAST FORK BATTLE CREEK T36N R19E Section 9	Total number of individuals recorded	Number of points along transect species was detected (n=3)
American Wigeon	2	1

Common Name	Abundance	Distribution
EAST FORK BATTLE CREEK T36N R19E Section 9	Total number of individuals recorded	Number of points along transect species was detected (n=3)
Brown-headed Cowbird	1	1
Double-crested Cormorant	1	1
Eastern Kingbird	4	2
Horned Lark	3	2
Lark Bunting	9	3
Red-winged Blackbird	6	3
Spotted Sandpiper	1	1
Western Meadowlark	10	3

Common Name	Abundance	Distribution
EAST FORK BATTLE CREEK T36N R19E Section 19	Total number of individuals recorded	Number of points along transect species was detected (n=3)
Brewer's Blackbird	2	1
Brown Thrasher	2	1
California Gull	1	1
Clay-colored Sparrow	1	1
Eastern Kingbirds	4	3
Lark Bunting	1	1
Lark Sparrow	3	2
Prairie Falcon	2	1
Red-winged Blackbird	7	2
Spotted Towhee	1	1
Vesper Sparrow	1	1
Western Kingbird	2	1
Western Meadowlark	5	3
Yellow Warbler	1	1

Common Name	Abundance	Distribution
LODGE CREEK T35N R18E Section 20	Total number of individuals recorded	Number of points along transect species was detected (n=3)
American Wigeon	1	1
Black-billed Magpie	2	2
Brown Thrasher	2	2
Brown-headed Cowbird	7	2
Clay-colored Sparrow	1	1
Common Nighthawk	1	1
Gray Catbird	1	1
Great Horned Owl	1	1
Horned Lark	2	2
Killdeer	2	2
Lark Bunting	12	3
Lark Sparrow	1	1
Mourning Dove	2	1
Northern Harrier	1	1
Northern Shoveler	2	1

Common Name	Abundance	Distribution
LODGE CREEK T35N R18E Section 20	Total number of individuals recorded	Number of points along transect species was detected (n=3)
Red-winged Blackbird	1	1
Ring-necked Pheasant	1	1
Spotted Sandpiper	1	1
Western Meadowlark	5	3
Willet	2	2
Yellow Warbler	6	3

Common Name	Abundance	Distribution
EAST FORK BATTLE CREEK T36N R19E Sections 30 and 31	Total number of individuals recorded	Number of points along transect species was detected (n=3)
Blue-winged Teal	1	1
Brewer's Blackbird	1	1
Brown Thrasher	1	1
Cliff Swallow	2	2
Common Nighthawk	7	2
Eastern Kingbird	2	1
Horned Lark	1	1
Lark Bunting	14	3
Loggerhead Shrike	2	2
Mallard	1	1
Northern Pintail	1	1
Red-winged Blackbird	11	3
Ring-necked Pheasant	2	2
Sprague's Pipit	1	1
Western Meadowlark	7	3

Common Name	Abundance	Distribution
EAST FORK BATTLE CREEK T36N R19E Section 3	Total number of individuals recorded	Number of points along transect species was detected (n=3)
American Wigeon	2	1
Barn Swallow	1	1
Black-billed Magpie	1	1
Brewer's Blackbird	6	2
Brown Thrasher	1	1
Cliff Swallow	1	1
Eastern Kingbird	3	2
Lark Bunting	2	2
Lark Sparrow	1	1
Lesser Scaup	2	1
Loggerhead Shrike	2	2
Mallard	1	1
Red-winged Blackbird	2	1
Sprague's Pipit	2	2
Western Meadowlark	7	3

Common Name	Abundance	Distribution
BATTLE CREEK T35N R18E Section 12	Total number of individuals recorded	Number of points along transect species was detected (n=3)
American Robin	2	2
American Wigeon	1	1
Blue-winged Teal	2	1
Brown Thrasher	1	1
California Gull	1	1
Eastern Kingbird	1	1
European Starling	6	1
Lark Bunting	5	2
Loggerhead Shrike	1	1
Mallard	1	1
Mourning Dove	3	2
Northern Harrier	1	1
Red-winged Blackbird	15	3
Ring-necked Pheasant	3	3
Western Kingbird	2	1
Western Meadowlark	7	3

Common Name	Abundance	Distribution
WOODY ISLAND COULEE T37N R24E Sections 22 and 23	Total number of individuals recorded	Number of points along transect species was detected (n=3)
American White Pelican	2	1
American Wigeon	4	2
Baird's Sparrow	4	3
Blue-winged Teal	11	3
Brown-headed Cowbird	3	1
Chestnut-collared Longspur	6	2
Killdeer	1	1
Mallard	6	1
Marbled Godwit	3	2
Northern Pintail	2	1
Northern Shoveler	2	1
Red-winged Blackbird	13	3
Savannah Sparrow	4	3
Sprague's Pipit	1	1
Western Meadowlark	4	3
Willet	4	3
Wilson's Phalarope	16	3
Wilson's Snipe	4	3
Yellow-headed Blackbird	1	1

Common Name	Abundance	Distribution
WOODY ISLAND COULEE T37N R24E Section 23	Total number of individuals recorded	Number of points along transect species was detected (n=3)
American Wigeon	8	2
Baird's Sparrow	4	2

Common Name	Abundance	Distribution
WOODY ISLAND COULEE T37N R24E Section 23	Total number of individuals recorded	Number of points along transect species was detected (n=3)
Blue-winged Teal	7	3
Chestnut-collared Longspur	3	2
Horned Lark	4	2
Mallard	2	1
Marbled Godwit	2	1
Northern Harrier	1	1
Northern Shoveler	4	2
Red-winged Blackbird	6	3
Savannah Sparrow	5	3
Sprague's Pipit	3	3
Western Meadowlark	6	3
Willet	2	2
Wilson's Phalarope	5	1
Wilson's Snipe	2	2

Common Name	Abundance	Distribution
WOODY ISLAND COULEE T37N R24E Sections 23 and 24	Total number of individuals recorded	Number of points along transect species was detected (n=3)
American Wigeon	3	2
Baird's Sparrow	5	2
Barn Swallow	1	1
Blue-winged Teal	4	2
Brewer's Blackbird	2	1
Chestnut-collared Longspur	8	3
Double-crested Cormorant	1	1
Killdeer	2	1
Marbled Godwit	4	2
Northern Harrier	1	1
Northern Shoveler	1	1
Red-winged Blackbird	6	2
Savannah Sparrow	2	1
Sprague's Pipit	6	3
Western Meadowlark	4	2
Willet	1	1
Wilson's Phalarope	6	2
Wilson's Snipe	2	2

Common Name	Abundance	Distribution
30-MILE CREEK T33N R22E Sections 27 and 34	Total number of individuals recorded	Number of points along transect species was detected (n=3)
Brewer's Blackbird	8	2
Brown Thrasher	2	2
Brown-headed Cowbird	4	2
European Starling	2	1
Lark Bunting	3	1

Common Name	Abundance	Distribution
30-MILE CREEK T33N R22E Sections 27 and 34	Total number of individuals recorded	Number of points along transect species was detected (n=3)
Lark Bunting	3	1
Loggerhead Shrike	2	2
Mourning Dove	7	3
Northern Flicker	1	1
Ring-necked Pheasant	4	3
Sharp-tailed Grouse	2	1
Spotted Towhee	1	1
Swainson's Hawk	1	1
Western Meadowlark	12	3
Yellow Warbler	2	1

Common Name	Abundance	Distribution
BADGER CREEK T34N R17E Section 22	Total number of individuals recorded	Number of points along transect species was detected (n=2)
Common Nighthawk	1	1
Gadwall	1	1
Killdeer	1	1
Lark Bunting	1	1
Lesser Scaup	1	1
Lesser Yellowlegs	1	1
Long-billed Dowitcher	1	1
Red-winged Blackbird	1	1
Vesper Sparrow	1	1

Common Name	Abundance	Distribution
MUD LAKE T37N R24E Section 23	Total number of individuals recorded	Number of points along transect species was detected (n=3)
Chestnut-collared Longspur	8	2
Horned Lark	4	2
Killdeer	2	2
Lesser Scaup	2	1
Long-billed Curlew	5	2
Marbled Godwit	5	2
Northern Pintail	1	1
Sprague's Pipit	3	2
Western Meadowlark	3	2
Willet	2	1
Wilson's Phalarope	8	2

Common Name	Abundance	Distribution
RESERVOIR COULEE T34N R18E Section 19	Total number of individuals recorded	Number of points along transect species was detected (n=3)
American Wigeon	2	1
Barn Swallow	5	2
Blue-winged Teal	2	1

Common Name	Abundance	Distribution
RESERVOIR COULEE T34N R18E Section 19	Total number of individuals recorded	Number of points along transect species was detected (n=3)
Chestnut-collared Longspur	1	1
Common Nighthawk	1	1
Gadwall	2	1
Horned Lark	8	3
Killdeer	1	1
Lark Bunting	6	3
Lesser Scaup	2	1
Mallard	6	2
Marbled Godwit	7	2
Northern Shoveler	2	1
Swainson's Hawk	2	2
Vesper Sparrow	1	1
Western Meadowlark	4	2
Yellow Warbler	1	1

Common Name	Abundance	Distribution
RESER RESERVOIR T34N R18E Sections 8	Total number of individuals recorded	Number of points along transect species was detected (n=3)
Barn Swallow	6	2
Blue-winged Teal	2	1
Brown-headed Cowbird	3	1
Double-crested Cormorant	7	2
Eared Grebe	2	1
Eastern Kingbird	8	3
Forster's Tern	8	2
Gadwall	4	2
Horned Lark	1	1
Killdeer	4	2
Lark Bunting	2	1
Lesser Scaup	10	1
Mallard	2	1
Marbled Godwit	1	1
Northern Shoveler	2	1
Red-winged Blackbird	13	3
Ring-billed Gull	3	2
Spotted Sandpiper	2	1
Swainson's Hawk	1	1
Western Grebe	2	1
Western Meadowlark	5	3
Willet	3	2
Yellow-headed Blackbird	9	3

**APPENDIX G. LIST OF BIRDS FOR QLL'S COVERING PROJECT AREA
IN BLAINE COUNTY**

Common Name	Highest Status
<i>American Avocet</i>	B
<i>American Bittern</i>	b
American Coot	B
American Crow	b
<i>American Goldfinch</i>	b
<i>American Kestrel</i>	b
American Redstart	t
<i>American Robin</i>	B
<i>American White Pelican</i>	t
<i>American Wigeon</i>	b
<i>Baird's Sparrow</i>	b
Bank Swallow	b
Barn Owl	t
<i>Barn Swallow</i>	B
Belted Kingfisher	t
<i>Black Tern</i>	b
Black-and-white Warbler	t
Black-bellied Plover	t
<i>Black-billed Magpie</i>	b
Black-capped Chickadee	b
Black-throated Green Warbler	t
Blue Jay	t
<i>Blue-winged Teal</i>	b
<i>Bobolink</i>	b
Bonaparte's Gull	t
<i>Brewer's Blackbird</i>	B
Brewer's Sparrow	b
Brown Thrasher	b
Brown-headed Cowbird	B
Bufflehead	B
Bullock's Oriole	b
<i>Burrowing Owl</i>	B
<i>California Gull</i>	b
<i>Canada Goose</i>	B
Canvasback	b
Caspian Tern	t
Cedar Waxwing	t
<i>Chestnut-collared Longspur</i>	B
Chipping Sparrow	b
<i>Cinnamon Teal</i>	b
<i>Clay-colored Sparrow</i>	b
<i>Cliff Swallow</i>	B
Common Goldeneye	B
Common Grackle	b

Common Name	Highest Status
Common Merganser	t
<i>Common Nighthawk</i>	b
Common Redpoll	t
<i>Common Tern</i>	B
<i>Common Yellowthroat</i>	b
Dark-eyed Junco	t
<i>Double-crested Cormorant</i>	t
<i>Eared Grebe</i>	B
<i>Eastern Kingbird</i>	b
Eurasian Wigeon	t
<i>European Starling</i>	b
Evening Grosbeak	t
<i>Ferruginous Hawk</i>	b
Field Sparrow	b
<i>Forster's Tern</i>	B
<i>Franklin's Gull</i>	t
<i>Gadwall</i>	b
Golden Eagle	t
Grasshopper Sparrow	b
<i>Gray Catbird</i>	t
<i>Gray Partridge</i>	b
<i>Great Blue Heron</i>	t
Greater Yellowlegs	t
<i>Green-winged Teal</i>	b
Harris's Sparrow	t
Hooded Merganser	t
<i>Horned Lark</i>	B
House Finch	t
House Sparrow	B
House Wren	B
<i>Killdeer</i>	b
<i>Lark Bunting</i>	b
<i>Lark Sparrow</i>	b
Lazuli Bunting	b
<i>Least Flycatcher</i>	b
<i>Lesser Scaup</i>	b
<i>Lesser Yellowlegs</i>	t
<i>Loggerhead Shrike</i>	b
<i>Long-billed Curlew</i>	B
MacGillivray's Warbler	t
<i>Mallard</i>	B
<i>Marbled Godwit</i>	B
<i>Marsh Wren</i>	t
<i>McCown's Longspur</i>	B

Common Name	Highest Status
Merlin	b
Mountain Bluebird	t
Mountain Chickadee	t
<i>Mourning Dove</i>	b
<i>Northern Flicker</i>	B
<i>Northern Harrier</i>	B
<i>Northern Pintail</i>	B
Northern Rough-winged Swallow	b
<i>Northern Shoveler</i>	B
Northern Shrike	t
Orange-crowned Warbler	t
<i>Palm Warbler</i>	t
Pied-billed Grebe	t
Pine Siskin	t
<i>Prairie Falcon</i>	t
Red Crossbill	t
Red-breasted Merganser	t
Red-naped Sapsucker	t
Red-necked Grebe	t
Red-shafted Flicker	b
Red-tailed Hawk	b
<i>Red-winged Blackbird</i>	B
<i>Redhead</i>	b
<i>Ring-billed Gull</i>	b
Ring-necked Duck	b
<i>Ring-necked Pheasant</i>	b
<i>Rock Pigeon</i>	b
Rough-legged Hawk	t
<i>Ruddy Duck</i>	b
Sanderling	t
<i>Savannah Sparrow</i>	b
Say's Phoebe	b
Semipalmated Plover	t
Sharp-shinned Hawk	t
<i>Sharp-tailed Grouse</i>	B
Short-eared Owl	t
Snowy Owl	t
Solitary Sandpiper	t
<i>Song Sparrow</i>	b
<i>Sora</i>	b
<i>Spotted Sandpiper</i>	b
<i>Spotted Towhee</i>	b
<i>Sprague's Pipit</i>	b
<i>Swainson's Hawk</i>	B

Common Name	Highest Status
Swainson's Thrush	t
Townsend's Solitaire	t
<i>Tree Swallow</i>	t
Turkey Vulture	t
<i>Upland Sandpiper</i>	t
<i>Vesper Sparrow</i>	B
Violet-green Swallow	t
Warbling Vireo	b
<i>Western Grebe</i>	b
<i>Western Kingbird</i>	b
<i>Western Meadowlark</i>	B
Western Tanager	t
Western Wood-pewee	B
White-breasted Nuthatch	t
<i>Willet</i>	B
<i>Wilson's Phalarope</i>	b
<i>Wilson's Snipe</i>	b
Wood Duck	b
<i>Yellow Warbler</i>	B
<i>Yellow-headed Blackbird</i>	b

Species in *italics* were observed during the 2005 field work for this project.

This list was generated for observations documented during the breeding season (Feb 15th through December 14th) as defined by Montana Bird Distribution.

B - Direct evidence of breeding, or evidence of young. This status requires evidence that young (or eggs) have been produced.

b - Indirect, or circumstantial evidence of breeding. This status applies to breeding behavior without documentation of direct evidence of the production of young/eggs.

t - no evidence of breeding. This status represents transients, migrants, or wide-ranging species that exhibit no breeding behavior at the time of the observation.